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ABSTRACT

Intended to help special education administrators, the guide presents information on resources for microcomputer application in program management. The first section offers basic information on such topics as online databases, software, database management systems, and word processing programs. Section 2 provides information on computer organizations, user groups, and human resources; section 3 includes abstracts of over 40 articles on a variety of topics including spread sheets, software review, buying guides for modems, computer consultants, word processing, rural special education, and computer crime. Abstracts of books in section 4 touch upon computer literacy, computer peripherals, organizational issues, and database management. Section 5 describes online resources in SpecialNet, CompuServe, and ERIC. The sixth section summarizes input from special educators on specific software. A report on the role of institutions of higher education and a glossary of terms complete the guide. (CL)

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CRITICAL CONSUMERS AND USERS GUIDE

Developed for the
SPECIAL EDUCATION RESOURCE NETWORK

By

Mary Britt Vasquez
Steve Johnson

SERN Resource Service Center
Director: Steve Johnson

June 1985

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and
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Presentation at the Annual Convention
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HOW TO USE THIS GUIDE

While the information contained herein is not intended to be all inclusive, it is intended to include basic considerations, concepts and contacts for the special education administrator's staff and the administrator.

There are eight sections to the guide:

- GOOD BASIC READING are easy to read articles that introduce the reader to several areas of information necessary for effective administrative use of the micro-computer.
- COMPUTER ORGANIZATIONS, USER GROUPS AND HUMAN RESOURCES, includes names, addresses, phone numbers, and when possible a brief descriptor paragraph. No endorsement is intended.
- ARTICLE ABSTRACTS on basic areas of micro management can direct the administrator to an appropriate source for further reading. Some are available through SERN's Resource Service Center.
- BOOK ABSTRACTS on micro management can assist the administrator in selecting appropriate reading material for the office library and in identifying appropriate sources for further reading.
- ONLINE RESOURCES describes in more depth, an enormous network of information available to the administrator via telephone connection.
- RESOURCE SERVICE CENTER USER EVALUATION AND COMMENTS provides limited feedback on specific software programs by actual field users.
- A REPORT FROM THE MICROADMIN PROJECT: THE ROLE OF IHEs, surveys training programs offered by California institutes of higher education for administrators.
- GLOSSARY lists and defines some of the fundamental terminology used in the field of micro computers.

Use and enjoy!

Britt Vasquez

INTRODUCTION

The Critical Consumers and Users Guide (CCUG) is a response to the need for information demonstrated by California special education administrators. During the first phases of the Leadership Training for Administrators of Special Education in Emerging Technology (the MicroAdmin Project) numerous administrators responded to written and telephone needs assessments regarding the uses of microcomputers for administrative purposes in special education. Among the emerging needs, a lack of educational opportunities to learn about microcomputer use in special education administration, and insufficient knowledge among administrators to use microcomputers effectively, became apparent.

The following users guide is one of the initial efforts to respond to this need for knowledge. The intent of the CCUG is to put the administrators in contact with those resources available to them, to make better educated choices regarding the uses of microcomputers for their administrative needs.

The first draft of this guide is hard copy. Updates will be provided "on-line". It is suggested the user maintain the loose leaf format offered, and add to it as s/he gathers resources from day to day. Additionally, the loose leaf format should enable the user to add updates from our on-line efforts, as they arrive and are printed out.

We appreciate feedback and would be happy to discuss the guide with any field user.

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and

. The patient and tenacious support staff of the SERN-RSC

CRITICAL CONSUMERS AND USERS GUIDE

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GOOD BASIC READING

This section offers some basic information on:

- *Online Data Bases
- *Software
- *Purchasing Computers
- *Data Bases
- *Spread Sheets
- *Accounting Programs
- *Word Processing Programs
- *Decision Support Systems

Online Data Bases[1]

by Jim Pollard and Don Holznagel

Who were the Chicago Seven? What are the ten mines with the greatest production of barite? Does anyone really know how to teach reading to seventh graders? What is the average salary for a custodian in Arkansas? What are five states whose state bird is the western meadow lark?

If your answer to any of the questions above was "Who cares?" then you did well on this test. John Naisbitt (Megatrends) estimates that the amount of data in the world is doubling every 20 months. It is safe to assume that you will not need most of that data. It is also safe to assume that you do not want to wade through all of that data to get to the data which you do need. This wading task is what an online (that is, computer searchable) data base does for you. Using a well designed system, you will be able to ask the computer to find only the information which meets the criteria which you establish and to avoid bothering you with information you do not want.

As might be expected, there are a number of different data bases, each of which specializes in a particular topic or type of information. As might also be expected, there is a data base of information on data bases, the Encyclopedia of Information Systems and Services. That resource has entries for the 2030 organizations which supply some type of computer data base service.

WHAT IS A DATA BASE?

There are three general types of data bases: the full text, the bibliographic and the so-called "non-bibliographic" data bases. The full text systems are exactly that — complete copies of documents such as news articles, research reports, and software evaluations. Typical of these is the monster of the data bases, NEXIS, run by Central Data Services. The complete text of every Washington Post, Newsweek, U.S. News and World report and several other periodicals resides on its computer. The newspaper articles date from 1977 and the magazines from 1975. (LEXUS, a similar data base for legal information is a good place to begin your search for the names of the Chicago Seven.)

In using a full text system, you will typically enter your search criteria in exactly the way it might appear in an article (e.g. "Chicago Seven"). The computer will search the data until it finds an entry with that combination of letters and print the record it finds. You can, of course, put some limits on the dates which are searched and the number of records you want.

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[1] QUEUE, Micro Computers In Education, August, 1984.

Bibliographic data bases hold references to the original report or article rather than the full text. These banks are usually searched using "key words", terms which are selected as appropriately describing the subject of the document when the reference is entered. When you search, you will use only those key words which are listed in a thesaurus for the particular data base.

The greatest disadvantage to using a bibliographic data base is that you must depend on the indexer to accurately determine the content of each article. An article on oil drilling, for example, might contain a section on barite mining. Unless the indexer noticed that reference, the article would not be discovered in your search for information on the ten biggest barite mines.

The most useful of the bibliographic data bases to educators is probably the Educational Resources Information Center (ERIC), which is sponsored by the U.S. National Institute of Education. Using ERIC, you can combine keywords to target an exact topic. For example, you might combine the words "junior high," and "reading" to find articles on teaching reading to seventh graders. After receiving the references, it would be up to you to locate the original articles. Fortunately, you will be guided by relatively short descriptions of the references to help you decide if you even want to locate the journals or microfiche with the actual articles.

Non-bibliographic data bases are simply collections of data. The Bureau of Labor Statistics, for example, maintains the BLS Data Bank in which you might find salaries for various occupations in various states (including custodians in Arkansas). Most of these data bases allow you to customize the reports you receive to some extent. The BLS system uses the TPL (Table Producing Language) to simplify selecting and displaying of information from those files.

WHERE DO YOU FIND A DATA BASE?

When you search for information in a computer data base, there are at least three entities which are involved in the transaction. There is first, the organization which has gathered and entered the information into the computer file—the owner of the information.

In some cases, the owners are the only ones who have access to the information and they will search their own files for you. Such is the case with the Hymn Society of America which keeps a computer file of 2 million hymns. In other cases, you search a data base using the owner's equipment if you have the proper authority. If you are an employee of a

(QUEUE, cont.)

member district, the Oregon Total Information System, which holds over 170,000 student records and administrative data for 76 school districts in that state, will allow you to ask questions of your district's part of its data base using its terminals and a piece of software which the information service calls QUERY.

The second entity which is involved in your search for information is the data base vendor. Data base owners tend to be people who have information about a particular subject. Because these are not necessarily the people who have the time, skills and equipment to allow others to browse through their information, they tend to contract with organizations which do. These organizations, the data base vendors, contract with the owners to store the information, make it available to you, and bill you. Such is the case with, for example, the Laboratory's own Resources in Computer Education (RICE) data base. We send the information to the Bibliographic Retrieval Service, Inc. (BRS) who then makes it available to you.

The advantage of using a data base vendor is that you have an easy way of finding the data base you need. BRS will sell you access not only to RICE, but also to ERIC, Psychological Abstracts, Dissertation Abstracts and all of those other data bases which make life as a graduate student so much different today. The disadvantage is that it costs money, usually a fee for the amount of time you spend searching and a subscription fee, either one-time or annual.

There are two major competitors selling data base information to educators, BRS and Lockheed/Dialog. Both of these organizations offer many data bases with the major ones such as ERIC available from both vendors. The commercial electronic mail systems also offer data which may be searched. These systems tend to be full text with the searches somewhat slower than with specialized vendors.

You may have anticipated who the third entity involved in your search for information is. Because you will use the phone lines, there will be charges. The chances are good that the computer which houses the data base system cannot be reached with a local direct telephone call, so there will be costs for a long distance call. The costs can be quite low if you make your call through one of the companies which rent the lines at a reduced rate because they handle a large volume of traffic. If you are in a medium to large city, you can share in their savings by dialing a local number and having your call included in the volume. Even if you are not in a city served by one of these companies, it is probably less expensive to make a toll call to the nearest city which is served than to make a direct call. The major companies providing this service are Telenet, Tymnet and Uninet.

WHO SHOULD BE USING A DATA BASE?

(QUEUE cont.)

The simplistic answer to that question is everybody should be using data bases. That arrangement would make data base vendors very rich and most school districts very poor, however. A more realistic answer is that you should balance the need for information with the cost of obtaining that information. The latter answer is, unfortunately, realistic but not particularly helpful.

As a guide, you might be interested to know the cost of discovering the answers to the questions posed in the first paragraph. The first and last questions, the names of the Chicago Seven and the states which are partial to western meadow larks, could probably be found in the NEXIS data base and the PAIS (Public Affairs Information Services) data base respectively. The searches would cost about $20 each. The PAIS search would, however, result in a reference to a book where the information could be found. In each case, using a print data base (a book) would be simple and quick. You would find the Chicago Seven in an encyclopedia and the state birds in an almanac.

The barite mines could be found using either the GEOREF data base of the GPO (U.S. Government Printing Office) data base. Fees for using GEOREF are $85 per hour while the GPO costs $35 per hour. Because of the lower cost and because the publications listed on the GPO data base are readily available, you might start with that data base. The search would cost about $15.

If you used ERIC to find articles on teaching reading to seventh graders, you would find 45 articles which were assigned both the keywords "reading" and "seventh grade". The search and a listing of the references would cost about $20. If an article looked particularly valuable, chances are very good that a microfiche copy of the article could be found in a library close to you.

Your search for custodian salaries would be easiest on the PAIS data base which lists all sorts of data for public agencies. Searching under "wages and salaries" combined with "building service employees" would uncover two references, including the Industry Wage Survey by the Bureau of Labor Statistics. The search would cost under ten dollars.

WHAT SKILLS ARE NECESSARY?

If you try to search an online data base with training in searching skills, the chances are very good that you will eventually be successful. You are likely, however, to make a substantial dent in your budget. A skilled searcher is able to structure the search in the most efficient way using the best data bases. A trial and error approach is unlikely to uncover the best descriptors for the information you need. The data base vendors offer training in most large cities and provide manuals and thesauruses when you sign up with them.

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If you will not be making constant use of computer searchable data bases, the best bet is to find a trained searcher to help you. Most university libraries will do information searches, billing you for the actual charges.

If you need more information (or if you know of a particularly interesting data base), please contact Jim Pollard or Maggie Rogers at the Northwest Regional Educational Laboratory, 300 S.W. Sixth St., Portland, Oregon 97204, (503) 248-6800.

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A SAMPLER OF EDUCATIONAL DATA BASES

Abstracts of Instructional Materials/Abstracts of Research Materials (AIM/ARM)
Describes instructional materials for vocational and technical education.
Vendor: DIALOG

Bilingual Education Bibliographic Abstracts (BEBA)
Citations and abstracts concerning language instruction, culture, and minority groups.
Vendor: BRS

Education Resources Information Center (ERIC)
Educational information including search, descriptions of exemplary programs, and journal articles. Each record contains a citation and an abstract of the article. Noncopyrighted articles are available in print or microfiche from ERIC.
Vendor: ORBIT, DIALOG, BRS

Exceptional Child Resources (ECER)
Citations and abstracts of articles concerned with the education of handicapped or gifted students.
Vendor: BRS, DIALOG

National Center for Education Statistics (NCES)
Just about every educational statistic which is known can be found here. The NCES office does the searching and reporting for the cost of computer time.
Vendor: Statistical Information Office Presidential Building — NCES, Room 101, U.S. Department of Education, 400 Maryland Avenue, S.W., Washington, D.C. 20202, (301) 436-7900

National Information Center for Education Media (NICEM)
A listing of all types of nonprint instructional materials (film, slides, records, etc.) for all grades.
Vendor: DIALOG

National Information Center for Special Education Materials/National Instructional Materials Information System 1 (NICSEM/NIMIS 1)
All types of print and nonprint instructional materials for students with all types of disabilities.
Vendor: BRS, DIALOG

National Technical Information Service (NTIS)
This is where you can locate the reports of government sponsored research in any topic.
Vendor: BRS, DIALOG, ORBIT

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Resources in Computer Education (RICE)
RICE provides information on educational software by subject, grade level, hardware, etc.. Evaluation and producer information is also available.
Vendor: BRS

Resource Organizations and Meetings for Educators (ROME)
You will find a profile of most of the organizations concerned with education and related disciplines as well as their meetings, projects and publication.
Vendor: BRS

School Practices Information File (SPIF)
This collections contains descriptions of the software, curricula, inservice programs, etc. which were developed using Title IV-C funds.
Vendor: BRS

Vocational Education Curriculum Materials (VECM)
Another listing of print and nonprint materials for vocational and technical education.
Vendor: BRS

Vocational Education Program Improvement (RIVE)
This is an index to the reports on research, innovative programs, and curriculum projects which have resulted from Vocational Education funds.
Vendor: BRS

U.S. Public School Directory
Directory of the public schools in the nation including some demographic data.
Vendor: DIALOG

THE VENDORS

The most efficient way to search a particular data base is through a data base vendor. The three vendors listed below will sell you access to most of the on-line data bases which you will use.

BRS
Bibliographic Retrieval Services, Inc.
1200 Route 7
Latham, NY 12100
(800) 883-4707

DIALOG
Lockheed Information Systems
3460 Hillview Avenue
Palo Alto, CA 94304
(800) 227-1960

(QUEUE, cont.)

ORBIT
System Development Corporation (SDC)
2500 Colorado Avenue
Santa Monica, CA 90406
(800) 421-7229

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SOFTWARE

by Joyce Hakansson[1]

In a national survey conducted in February, 1984, educators responsible for buying educational software told ELECTRONIC EDUCATION what factors influence their purchase decisions. The profile of educational software buyers includes the following:

*The respondents have an average software budget of $1,500 to $2,000.

*Most educators feel that software is now satisfactory in technical and creative quality.

*Nearly half of the respondents feel that manufacturer/distributor support needs much improvement.

*More than half believe that educational software does not have enough breadth, or relation to other learning materials.

*79% are dissatisfied with some of the software owned by their schools and, as a result, 40% have decided not to buy from the same company again.

*More liberal software copying policies—or lower costs for back-up disks and multiple disk purchases—are a primary concern of educators.

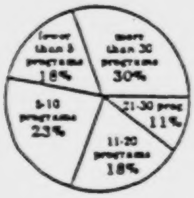
WHO RESPONDED TO THE SURVEY?

What grade level do you teach/administer, and what is your title?

Level	Teacher/ Professor	Computer Coordinator	Principal	Other*	TOTAL
Elementary	5%	2%	1%	3%	11%
Secondary	19%	11%	7%	7%	44%
District	1%	7%	-	14%	22%
College	13%	2%	-	2%	17%
Other	2%	-	-	4%	6%
TOTAL	40%	22%	8%	30%	100%

* [illegible]

How many different educational software programs do you use?



30% of the respondents use more than 30 different software programs.

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What hardware do you use in your classroom or office?

77% Apple
36% Radio Shack
25% Commodore
17% IBM
8% Atari
7% Texas Instruments
18% Other

*Percentages exceed 100% because of multiple usage

IS GOOD SOFTWARE AVAILABLE TODAY?

Which of the following do you consider to be generally true of today's educational software?

% of total respondents*
47% High-quality software is available at a reasonable cost, but is hard to find.
38% High-quality software is available, but is cost-prohibitive
20% High-quality software is generally unavailable.
7% High-quality software is available at a reasonable cost.

Educators feel strongly that good software is hard to find and is very often cost-prohibitive.

Are you dissatisfied with any of the software your school owns?

79% Yes
21% No

What actions have you taken in the past year with regard to unsatisfactory software?

% of total respondents*
40% Decided not to buy from the same company again
35% Decided not to purchase software with similar features again
34% Discontinued use of the software.
31% Asked for a replacement.
31% Wrote the company.
27% Called the salesperson.
15% Asked for a refund.
18% Took no action.

If you contacted the company, were you satisfied with the company's response?

Of those who asked for a replacement, 70% were satisfied.
Of those who asked for a refund, 66% were satisfied.
Of educators who called the salesperson, 56% were satisfied.
Of educators who wrote the company, 55% were satisfied.

Nearly half the educators who contacted software companies about their dissatisfaction with a product were not satisfied with the companies response.

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WHAT DO EDUCATORS WANT IN SOFTWARE?

In what areas do you feel that currently available software needs improvement?

Available software:	Is highly satisfactory	Is usually OK	Needs much improvement
Ease of use	20%	67%	13%
Graphics	12%	69%	19%
Ability to keep students' attention	17%	61%	22%
Technical quality	12%	64%	24%
Narrative quality	7%	63%	30%
Supplier support	9%	49%	42%
Documentation	6%	53%	41%
Cost	7%	44%	49%
Versatility	7%	39%	54%
Coverage of subject matter	9%	38%	53%
Congruency with other materials, learning objectives, etc.	6%	39%	55%

Most educators feel that software is now satisfactory in technical and creative quality. Nearly half of the respondents feel that manufacturer/distributor support and service needs much improvement, and more than half believe that educational software does not have enough breadth or relation to other learning materials.

Which of the following do you consider important in purchasing or recommending software?

% of respondents indicating "absolute prerequisite" or "very important".

Error-and-bug free	99%	Low cost	79%
Good documentation	93%	Verbal creativity	64%
Warranty	88%	Creative graphics	53%
Back-up copies provided	84%	Drill and practice	40%
Review copies provided	84%		

Grade level does not appear to affect what educators consider important in purchase decisions. Title, however, does matter: Computer coordinators consider "drill and practice" to be significantly less important than either teachers or administrators do, and they also consider "back-up copies provided" to be significantly more important than other teachers or administrators do.

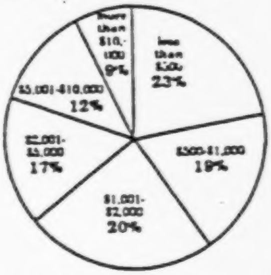
WHO BUYS SOFTWARE?

Who had a part in recommending or authorizing the purchase of the software you use?

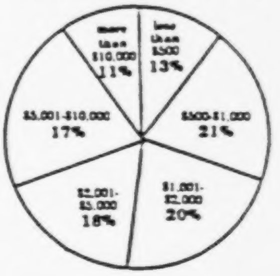
58%	Teacher or professor
52%	School or district microcomputer supervisor
31%	Department chairperson
8%	Purchasing agent
8%	College administrator
20%	Other (Includes principals, district administrators and media center directors)

How much spending do you expect to recommend or authorize for educational software...

during the current school year? (83/84)



during the next school year? (84/85)



Teachers are involved in more than half of all purchase decisions, across all grade levels.

(QUEUE, cont)

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Spending authority per educator is highest at district followed by college and secondary levels. The average respondent has an educational software budget of $1,500 to $2,000.

WHO COPIES SOFTWARE?

For which of the following purposes do educators feel free to copy software?	90% A back-up disk 54% Use for more than one student at a time 12% Loan to another educator 6% Other
Are you aware of the manufacturers' policies on copying the software you currently use?	95% Yes 5% No
Do you consider the policies to be generally:	57% Fair 30% Unfair 13% I don't know

Nearly all educators copy software to make back-up disks, and over half feel free to copy software for multiple student use.

Summary of Comments

Based on write-in comments, the software-copying policies of manufacturers are a major concern of educators. Many respondents of this survey asked for low-cost copies to be provided, for two reasons: for back-up in case of disk failure, and for use with several students at one time - both in multiple systems and for use with hard disk networking.

Several other areas of concern appeared in the write-in comments. First, educators want a means of previewing the disks before making purchase decisions. Secondly, software should be designed to develop creative and critical thinking skills in students. Thirdly, educators (particularly teachers) would like for software to cost less, and fourthly, they would like to see better documentation.

In addition, several other suggestions were offered. First, the reading level for the instructions on software needs to be more carefully matched to the skill level of the program itself. For example, a second grade math program needs directions at the second grade level. Secondly, a software should be developed to correspond with particular textbooks and curricula. And thirdly, catalogs and purchase information need to clearly indicate what specific hardware the package will operate on, and for what grade level it is designed.

(QUEUE, cont.)

BUYER	DESCRIPTION	EQUIPMENT
Houston Public School District	Just purchased another 600 micros bringing the total complement to over 4,000	Apple IIe Franklin IBM
U.S. Department of Defense Office of Dependent Schools	Recently announced a proposal to purchase 3,000-5,000 additional micros	Atari 800
State of West Virginia Department of Education	Announced plans to purchase 24,000 micros - 900 now, 5,000 by 1985	IBM PC
Drexel University	2,300 micros shipped as part of an eventual one-per-student policy	Macintosh
Stevens Institute of Technology	Freshmen are now *required* to purchase MINI COMPUTERS prior to admission	DEC 350
Indianapolis Public School District	900 micros have been installed in nine high schools, with 12 more high schools and 67 elementary schools scheduled to participate in next two years.	IBM Orchid PC net

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PURCHASING COMPUTERS*

Sloane's QUICK Tips On Buying Computers

by Dr. Eydie Sloane, Computer Specialist
FDLRS, South
Miami, Florida

DO

*Be a skeptic.

*Do spend a considerable amount of time just looking and shopping around.

*Do get promises of instruction on the computer - in writing!

*Do buy entire systems at the same dealership, if possible. They won't service or help you out on equipment you've bought elsewhere.

*Do ask the same questions of everybody. Eventually, the whole picture will come together about what the best system really is for you.

*Do ask for demonstrations of what you want the machine to do. Example: If word processing is a need, let the dealer demonstrate the kind of word processing you want (i.e., letters, reports, dissertation, mailing lists, etc.).

*Do ask for a demonstration of databased management systems, especially: a demonstration of VisiCalc for operating a lemonade stand just doesn't do much for the guy who wants to use it for project class schedules or million-dollar school budgets.

*Do ask for a demonstration on just how that printer, modem, peripheral operates.

*Do ask for specs literature. Study it. Come back and ask intelligent questions.

*Do your homework. Know what resources are available in your community.

*Do insist on a dealer or corporation hot-line as part of the package price.

DON'T

*Don't believe what you hear without a demonstration. Let them prove it!

*Don't visit stores on busy Saturday afternoons. Go on a weekday morning when the vendor has more time to spend with you.

*Don't believe anything not written into the purchase contract.

*Don't get carried away with loyalty to one vendor. Show him ads with prices that are lower than his; let him make an offer to you to keep you as his customer.

*Don't expect the salesman to know as much as you do. You're more sophisticated about computers than the average consumer.

*Don't fall for the "it's got 64k of RAM" nonsense. Make them type Print fre(0) on it to prove just how much RAM it has.

*Don't fall for any nonsensical jargon. Demand an explanation of terminology that sounds good but may be foreign to you. If that salesman won't give you a straight answer, go elsewhere.

*Don't try to educate THEM. They don't want your free advice. They want your money.

*Don't believe promises of "other products will be available soon". Believe it only when you see it.

*Don't buy the first computer you see; at least, not until you've seen others.

*Don't buy from "fly-by-night" unproven stores. Always try to purchase from corporation dealers - or - large companies that have as reputation for standing behind their products.

*reprinted by permission of Dr. Sloane, 1984

"On-line Databases" and "Data Base Management System"

Each field has its technical language and computers seem to be ripe with arcane words, phrases and jargon. Within the field of computers there are areas of specialty. Sometimes the same word or phrase may be used in two or more different areas to mean different things. So it is with "data base."

In telecommunications, an "on-line database" refers to a collection of information sorted by topic or interest and available to remote users with a computer, modem and telecommunications software. On-line databases are sources such as SpecialNET, Dow Jones News Retrieval CompuServe. It may be best to think of "on-line data bases" as electronic information sources.

A "data base management system" is a software package for use on a personal computer. This data base management system (DBMS) is self contained and doesn't need a modem or phone line. The data base management system can best be thought of as a fast and very sophisticated filing system that can analyze its own contents.

On-line data bases are discussed in further detail later on in this guide.

What are data base management systems used for?

*Data bases are most efficient when detailed information is maintained and calculated for individual units.

*When multiple uses are made of the same data file (pupil data, inventory, purchase orders), use a data base.

*They are used to create complete data base systems.

*They are used to add, delete, edit, display and print data.

*Use a data base for program/data independence, so that when you change your data you don't have to change your programs, and vice versa.

*They also are used to generate reports from one or more data bases.

*Finally, use data bases to automatically do multiplication, division, sub-totals, totals, and other data manipulation.

What critical factors should be considered when purchasing a database management system?

1. Ease of operation
2. Can it meet the application need?
3. Can information be sorted into various reporting sequences?
4. Can data be edited for coding or logical validity?
5. Flexibility of data field length or screen format
6. Will it only work on one brand of computer?

The easier and simpler a program is, the less it is able to do. Simple reporting systems can use the basic commercially available packaged systems. Most integrated applications usually need extensive modification of the more sophisticated database packaged systems or a custom written application system of programs.

What are some examples?
*dBASE II
*dBASE III
*R Base
*Condor
*Info Star
*PFS File
*Qpro

SPREAD SHEETS

What is a spread sheet?

A single program that utilizes a grid system of columns and row locations to create fact and flexible calculations of information is a spread sheet.

What are spread sheets used for?

They are used when extensive and repetitive calculations are needed:

*Two dimensional tables

*A change in one value causes all other data to be changed

*For single applications using lots of calculations

*To simulate alternate solutions to a problem such as alternative expenditure budgets

Who uses spread sheets?

Those who deal with budgets, attendance, financial forecasting, and enrollment use spread sheets.

What are some examples?

*VisiCalc
*Multiplan
*SuperCalc

ACCOUNTING SYSTEMS

What are accounting systems?

Accounting systems allow the user to keep track of monies spent, left, credits, debits, and breakdowns of large sums.

What are accounting systems used for?

These systems enable the user to keep track of budgets and accounts.

Who uses accounting systems?

Accountants, budget directors, purchasing departments will use them.

What are some examples?

*Activity Accountant—Scott-Foresman

*Budget by Commodore

*Budgetary Control and Planning by EDIS

*Budget Officer by Educational Microcomputer Assoc.

*Budget System—Educational Institutions by Commodore

*Bursar by Addison Wesley

*Cafeteria Management by EDIS

*Internal Accounting System by Educational Performance Systems

*Project Planning and Budgeting by Charles Mann & Assoc.

*Purchase by Addison Wesley

*Student Billing System by School Management Systems

*(personnel) ESM-100 by Educational Software and Marketing

*Personnel Data Recorder by Scott-Foresman

*Personnel and Skills Inventory; Position Control; and Staff Development by Mega Systems

*Teacher File by Pasco School District

WORD PROCESSING PROGRAMS

What are word processing programs?

Programs that quickly allow the manipulation of written material.

What are word processing programs used for?

Writing and rewriting

- *Changes easily
- *Editing
- *Formatting
- *Additions/deletions
- *Spelling and typo corrections
- *Customization of written documents and letters
- *Create forms
- *Easy updating

Who uses word processing programs?

- *Data processors
- *Secretaries and clerical help
- *Staff personnel
- *Anyone who writes extensively

What are some examples?

- *Wordstar
- *Bank Street Writer

DECISION SUPPORT SYSTEMS

by Gregory Smith, Educational Research Consultants

The degree of structure of a problem solving situation affects the kind of information that managers can use to solve the problem or to make the best possible decision.

Support Systems for Managerial Decision-Making:

There are three major classifications of support tools initially designed to assist managers in business:

*The Management Information Systems

*Operations Research/Management Science.

*Decision Support Systems

Each approach requires computer support. It is the design and application of this support that makes each tool distinctive.

Management Information Systems:

A. A main payoff has been on structured tasks where standard procedures, decision rules, and information flows can reliably be predetermined.

B. A main payoff has been on improving efficiency by reducing costs, turnaround time, and so on, and by replacing clerical personnel.

C. The relevance for managers' decision making has been mainly indirect, for example, by providing access to data and reports.

OPERATIONS RESEARCH/MANAGEMENT SCIENCE:

A. The impact has mostly been on structured problems (rather than tasks) where objective, data, and constraints can be pre-specified.

B. The payoff has been in generating better solutions for given types of problems.

C. The relevance for managers has been the provision of detailed recommendations and new methodologies for handling complex problems.

DECISION SUPPORT SYSTEMS:

A. The impact is on decisions where there is sufficient structure for computer and analytic aids to be of value but where manager's judgment is essential.

B. The payoff is in extending the range and capability of manager's decision processes to help improve their effectiveness.

C. The relevance for managers is the creation of a supportive tool, under their own control, which does not attempt to automate the decision process, predefine objectives, or impose solutions.

Decision Support Systems:

Decision support is more about decision making than computer technology. It is a strategy that has more to do with how managers define problems and establish decision rules in solving them. It is a strategy more concerned with effectiveness in managerial decision making than the efficient processing of information. Selecting the right criterion for problem definition and the best process of resolution is of more interest. It is a strategy in contrast to MIS or OR/MS that emphasizes the match between the manager's perception of what's important in the organizational context and his/her mode of operation.

In a DSS the manager plays an active part in defining, designing, and using the system rather than a passive role. Because the very premise of DSS is improving managerial effectiveness, the manager must initiate, design, control, and direct the implementation process. Without this leadership coming from the leadership user, others more technically oriented will continue to design and develop applications that only approximate managerial preferences, predispositions, and judgment.

Major Information Subsystems for DSS:

The managerial function can be summarized into three specific functions: planning, decisions & evaluating information feedback. The decision function can be made most effective when accurate, accessible information subsystems are established to provide factual planning data and evaluation feedback of decision outcomes.

Suggested information subsystems would include Student Data; Programs and Services; Personnel; Fiscal; Facility Development/Utilization; Instructional Materials/Equipment; Agency Resumes/Agreements; Evaluation/Research/ and Personal Time Allocations/Commitments.

Once a list of specific information subsystems has been established, then specific planning and evaluation data elements that would assist in decision making need to be identified for each subsystem. It will quickly be discovered that many processes of data aggregation and analysis will be common to several if not all subsystems. Examples would be file development and modification, printing and report generation, searching of files, aggregation of data, and preparation of designated statistics. The assistance of a person who is experienced in database system designs and programming is often very cost effective in establishing the details inherent in such systems.

As was initially stated, however, a decision support system is based on the premise that the most effective information support system is one where the manager who makes the decisions works with and guides the technical personnel in the design and implementation of the Decision Support System.

Acknowledgement for much of the content of this concept paper is given to the Indiana Decision Support System Network at Indiana University. Particular acknowledgment is made to Leonard Burrello and Michael Tracy for the Decision Support System design and their compilations of the research findings of several authors.

COMPUTER ORGANIZATIONS, USER GROUPS AND HUMAN RESOURCES

- Introduction
- Resource Selection Guide
- User Groups
- Associations
- Consultants and Human Resources
- Organizations Doing Research and Development

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Introduction

Computer organizations and user groups have generally developed out of a common need experienced by individuals using or wishing to use micro computers. Whether for personal use, home use, managerial purposes, or computer assisted instruction, individuals have banded together to share concerns and information.

Generally, user groups and organizations rely on the older, more experienced members to inform and offer support, while the role of newer members is to take in information and provide enthusiasm.

User groups and computer organizations may develop around a particular kind of hardware, such as the Kaypro Users Group, or around a particular purpose - such as CUE (Computer Using Educators).

Information included is on a limited number of user groups in this guide, pertinent to special education administrators.

The following resources are included for your information only. No screening or recommendations have been carried outnor implied. The questions on the following page may be used as a guide in selecting such resources. The list of resources will be "added to", periodically, as new ones are made known to us.

We offer, when possible, the :

Name
Phone
Address
Description

For additional resources, you may wish to check with local user groups, computer stores, and educators.

Resource Selection Guide

1. What do I want or need from this person, group, organization?
2. Who are the people that make up this organization?
3. What is their background?
4. What/how much experience have they had in the area of interest to me?
5. What references do they have?
6. What are their focuses?
7. How comfortable am I with them?
8. Why are they in this?
9. What do they have to offer me? Is this what I want/need?
10. Are meeting times/locations convenient?
11. Can I afford to be involved with them?
12. How do they compare to other organizations/people?

USER GROUPS*

- Auburn Commodore Computer Club
  Pat Strub
  (916) 823-7095
  1st Wednesday 7:30 p.m.
  Black Forest
  140 Elm Avenue
  Auburn, CA
  Placer County

- Access Atari Users Group
  Bruce Turner
  Francine Kozkodin
  (916) 422-9308
  4th Monday 7-10 p.m.
  SMUD Bldg.
  5701 "S" Street
  Sacramento, CA
  Sacramento County

- Apple Sac
  Irv Cohn
  (916) 481-7883
  1st Wednesday (informal meeting)
  3rd Tuesday (formal meeting)
  Madison School
  Madison & Harrison 1/4 mile west of I-80
  North Highlands, CA
  Sacramento County

- Basic User's Group of Sacramento
  Mark C. Jacobs
  (916) 485-5000 or 758-3203
  1st Sunday, 7:30 p.m.
  Shoreline Software
  Watt and Auburn
  Sacramento, CA
  Sacramento County

- The Boston Computer Society
  (617) 367-8080
  Three Center Plaza
  Boston, MA 02108
  out of state

  The Boston Computer society is both a computer resource center and consortium of user groups for most microcomputer systems. Monthly meetings and seminars address home, business, and educational computer applications. The society produces a bi-monthly, Boston Computer Update, which includes an educational computing column.

* A printout by county is available through SERN-RSC upon request.

- Commodore Computer Club
  John Zacharias
  (916) 363-9153
  4th Monday, 7-10 p.m.
  Hiram Johnson H.S. cafeteria
  65th Street & 14th Avenue
  Sacramento, CA
  Sacramento County

- Computer Education Resource Coalition
  Lesley College
  (617) 868-9600
  29 Everett College
  Cambridge, MA 02238
  out of state

  CERC is a coalition of several organizations that provide a multitude of services in the Boston area using educational technology. Their newsletter focuses on resources for teachers and includes a calendar of area computer-related events.

- Computer-Using Educators
  Don McKell
  (408) 926-1776
  Independence High School
  1776 Educational Park Drive
  San Jose, CA 95133
  Santa Clara County

  CUE is a California-based users' organization with members around the country. The organization seeks to improve school and college computer use. Activities include organizing major conferences, publishing a bimonthly newsletter, and jointly sponsoring Soft-swap with the Microcomputer Center at the San Mateo County Office of Education.

- Conduit
  (319) 355-5789
  P.O. Box 388
  Iowa City, IA 52244
  out of state

  Conduit provides a valuable source of evaluation, refinement, and distribution of educational software. Focusing primarily on higher education math and science software, Conduit also provides some precollege software and software converted from mainframes and minicomputers. A major publication of Conduit, Pipeline, provides extensive listings and evaluation of software.

- Davis Apple User Group
  Rick Bradley
  (916) 256-1417
  4th Thursday, 7:30 p.m.
  Davis Science Center
  5256 "C" Street
  Davis, CA
  Yolo County

- dBUG (dBASE II User Group)
  Milt Weinburg
  (916) 485-1511
  Bill White
  (916) 456-4139
  2nd Monday 7:00- 10 p.m.
  Software Center International
  1537 Howe Avenue
  Sacramento, CA
  Sacramento County

- Digital Research News
  (408) 649-3896
  P.O. Box 579
  Pacific Grove, CA 93950
  Monterey County

- (Fairfield) Commodore Users Group
  Mike Riley
  (707) 447-4017
  1st Monday & 3rd Tuesday
  Fairfield Community Center
  Fairfield, CA
  Solano County

- Franklin Users Group
  Ben Calhoun
  (916) 662-5976
  Last Wednesday of month
  EBM Computers
  Citrus Heights, CA
  Sacramento County

- East Bay Micro Mate Users Group
  Ed Miller
  (415) 376-1611
  1st Thursday
  P.O. Box 402
  Moraga, CA 94556
  Contra Costa County

- Kaypro Users Group (SKUG)
  Marty Meyer
  (916) 961-8810
  3rd Thursday 7-9:30 p.m.
  Oak Leigh Wedding/Reception Center
  8452 Madison Avenue
  Fair Oaks, CA
  Sacramento County

- Macintosh Users Group
  Ross Kaplan
  (916) 381-5044
  1st Sunday 7:30 p.m.
  Great American Federal Savings and Loan
  Fair Oaks Blvd. & Watt Avenue
  Sacramento, CA
  Sacramento County

- MicroSIFT
  (503) 248-6800
  Northwest Regional Educational Laboratory
  500 Lindsay Bldg.
  300 S.W. 6th Avenue
  Portland, OR 97204
  out of state

  MicroSIFT serves as a clearinghouse for pre-college software. Evaluation is provided through a network of national representatives who review and evaluate programs. MicroSIFT evaluations are currently being readied for access on the BRS database system.

- NBUG North Bay Users Group
  Bruce Knapton
  (415) 787-1143 (voice)
  (415) 787-2926 (modem)
  2nd Friday 7 p.m.
  Fantasy Computers
  Vallejo, CA
  Solano County

- Roseville Apple Core
  Otto Haiungs, President
  (916) 783-0364 or 782-5518
  4th Tuesday - SIG Meeting
  Roseville Main Library Conference Room
  225 Taylor Street
  Roseville, CA
  Placer County

- Sacramento Micro Users Group
  John Warkentin
  (916) 988-8420
  4th Tuesday 7:30-10:00 p.m.
  SMUD Training Bldg., behind Corti Bros.
  59th & Folsom Blvd.
  Sacramento, CA
  Sacramento County

- Sanyo Users Group
  Randy Jones
  (916) 920-7803 or 362-8305
  2nd Monday 7:30-10p.m.
  Los Rios College District Board Room
  1919 Spanos Court (near Howe & Northrop)
  Sacramento, CA
  Sacramento County

- SAUTE (Sacramento Area Users of Televideo Equipment)
  Hal Reynolds
  (916) 442-1956
  4th Wednesday 6:30-8:30 p.m.
  8037 Fair Oaks Blvd., Suite 109
  Sacramento, CA
  Sacramento County

- Sinclair Users Group (Timex-Sinclair User Group)
  Editor, Phillip Webb
  (916) 736-1010
  Jim Hirleman
  (916) 624-9103
  2nd Wednesday
  SMUD Training Bldg., behind Corti Bros.
  59th & Folsom Blvd.
  Sacramento, CA
  Sacramento County

- Softswap
  Ann Lathrop
  (415) 363-5372
  San Mateo County Office of Education
  333 Main Street
  Redwood City, CA 94063
  San Mateo County

  Softswap serves as a source of evaluation, refinement and distribution of educational software, as well as a software exchange. Over 300 public domain programs are available through Softswap, for a variety of computers.

- (SPIE) Sierra Pick Information Exchange
  Mike Rodriguez
  (916) 422-3044
  2nd Tuesday 6 p.m.
  Capitol Plaza Holiday Inn
  Sacramento, CA
  Sacramento County

  Promotes the education of members in the use of the "Pick" operating system.

- State Microcomputer Forum
  Jay Ellett
  (916) 322-5063
  Tim Mitchell
  (916) 372-5073
  2nd Wednesday 8:30 a.m.
  Employment Development Department
  800 Capitol Mall
  Sacramento, CA
  Sacramento County

- TRS-80 Users
  Richard Mayer
  (916) 961-5755
  1st Thursday 7-10 p.m
  SMUD Training Bldg. behind Corti Bros.
  59th & Folsom Blvd.
  Sacramento, CA
  Sacramento County

ASSOCIATIONS

New associations in the area of computing and education, and older well-established association that have committees on computing include:

- American Association of Physics Teachers
  (516) 246-6840
  Graduate Physics Building
  SUNY- Stony Brook
  Stony Brook, NY 11794

  As the major organization for physics teachers, AAP has been responsible for developing and teaching a large number of workshops on electronics.
  Publications: "American Journal of Physics"; "The Physics Teacher".

- American Educational Research Association
  (202) 223-9485
  1230 17th Street, N.W.
  Washington, DC 20036

  AERA is an organization of university educators and behavioral scientist interested in the development and improvement of educational research. Includes a special-interest group for members interested in computer-assisted instruction.
  Publications: "Educational Researcher"; "Educational Evaluation and Policy"; "American Educational Research Journal"; "Review of Educational Research".

- Association of Computers and the Humanities
  (504) 865-7407
  Queens College - CUNY
  Flushing, NY 11367

  Includes scholars interested in computer applications in the study of language, literature, and a variety of arts and social sciences.
  Publications: "Computers and the Humanities"; News Letter.

- Association for Computing Machinery
  (212) 869-7440
  11 West 42nd Street, 3rd Floor
  New York, NY 10036

  ACM is a large organization of computer scientists, engineers, physical scientists, business system specialists, analysts, and social scientists interested in computing and data processing. Includes a committee for education and many special-interest groups.
  Publications: More than 10 separate publications on a variety of subjects.

- Association for Computing Machinery, Sacto Chapter
  Roseanna Toretto
  (916) 739-3481
  P.O. Box 561
  Sacramento, CA 95814

- Association of Computer Trainers
  Don Tungate
  (916) 685-5966

- Association for Development of Computer-Based Instructional Systems
  Center Computer
  (206) 676-2860
  Western Washington University
  Bellingham, WA 98225

  ADCIS combines college, university, junior college, high school, military and commercial users of CAI or CMI.
  Publications: "Journal of Computer-Based Instruction"; Newsletter.

- Association for Educational Communications and Technology
  (202) 833-4180
  1126 16th Street , N.W.
  Washington, DC 20036

  AECT is concerned with the planning, application and production of communications media for instruction. Committees include teacher education.
  Publications: "Instructional Innovator"; " Journal of Instructional Development"; "ECTJ Research Journal"; Newsletter.

- Association for Educational Data Systems
  (202) 833-4100
  1201 16th Street, N.W.
  Washington, DC 20026

  AEDS is a large national organization which includes 23 individual state groups. Members are involved directly with planning, development and operation of educational data processing systems. Original concern was with minicomputers and main frames; now expanding to microcomputers.
  Publications: Bulletin; Journal; "Monitor".

- Association of Information Systems Professionals
  ASIP
  (916) 929-6127
  1555 River Park Drive, Suite 107
  Sacramento, CA 95815

- Association for Women in Computing
  55 Sutter Street, Suite 44
  San Francisco, CA 94104

- Association for Women in Computing
  407 Hillmoor Drive
  Silver Spring, MD 20901

  AWC brings together individuals interested in furthering and promoting the education of women in computing. Sponsors seminars.
  Publications: Newsletter.

- Association of Information and Dissemination Centers
  (404) 542-3106
  P.O. Box 8105
  Athen, GA 30603

  AIDC joins information centers representing industry, government, and educational institutions in the U.S. and other countries. Provides a forum for communication between information users and data base suppliers. Includes a committee on education.
  Publications: Newsletter.

- CODE - Coordinators of DP Education
  Norma Applegate
  (916) 445-2040
  Martine McRae
  (916) 732-5151

- Data Processing Management Association
  Sacramento Chapter
  (916) 487-3233
  P.O. Box 1223
  Sacramento, CA 95806

- Council for the Advancement of Experiential Learning
  (301) 997-3535
  Lakefront North, Suite 300
  Columbia, MD 21044

  Has 14 regional groups, including Project Learn, involved in development of software.
  Publications: "News"; "New Directions for Learning".

- Federation of Information Processing Societies
  (703) 588-3600
  1815 N. Lynn Street, Suite 800
  Arlington, VA 22209

  The Federation includes Association of Computing Machinery, Association for Educational Data Systems among others and serves as a national voice for the computing field.
  Publications: "Washington Report"; "Annals"; "Proceedings".

- National Audio-Visual Association
  (703) 273-7200
  3150 Spring Street
  Fairfax, VA 22031

  NAVA is a trade association of dealers, manufacturers, producers and suppliers of audio-visual, video and microcomputer products and materials. Provides information on funding for educational computing. Publications: "News"; "Audio-Visual Equipment Directory".

- National Council of Teachers of Mathematics
  (703) 620-9840
  1906 Association Drive
  Reston, VA 20091

  As the major professional organization for math teachers, NCTM encourages classroom computing at all grade levels and has published a policy statement on educational microcomputer applications. Software reviews and articles on issues concerning math education and computer use are regularly included in its official journals.
  Publications: "Arithmetic Teacher"; "Mathematics Teacher"; "Journal for Research in Mathematics Education"; "NCTM News Bulletin".

- National Science Teachers Association
  (202) 328-5840
  1742 Connecticut Avenue, N.W.
  Washington, DC 20009

  Projects initiated by NSTA include developing interdisciplinary software for energy and education. Presentations at annual NSTA conferences include many on computer-based science instruction.
  Publications: "Science and Children"; "The Science Teacher"; " Energy and Education"; "The Journal of College Science Technology".

- New England School Development Council
  (617) 879-7624
  85 Speen Street
  Framingham, MA 01701

  NRSDEC provides a cooperative mechanism for educational planning, research, and development for New England schools and colleges. Conducts conferences and research and maintains a library of books and periodicals.
  Publications: "Monthly Monographs"; "NESDEC Exchange".

- Sacramento Statistical Association
  Al Bradley
  (916) 445-7026 or 421-2371
  Sacramento, CA

- Society for Applied Learning Technology
  (703) 347-0055
  50 Culpepper Street
  Warrenton, VA 22186

  SALT primarily serves professionals in instructional technology, particularly higher education and research.
  Publications: "Journal of Educational Technology Systems"; SALT Newsletter.

- Society for Computer Simulation
  (714) 459-3888
  P.O. Box 2228
  La Jolla, CA 92038

  SCS joins persons engaged in simulation, especially through the use of computers. Sponsors conferences and symposia. Has 9 regional groups.
  Publications: "Simulations"; "Proceedings".

- Society of Data Educators
  (901) 761-0727
  983 Fairmeadow Road
  Memphis, TN 38117

  SDE involves educators at all levels in the use and teaching of automation, computers, and data processing.
  Publications: "Journal of Data Education".

- University Consortium for Instructional Development and Technology
  (315) 423-3640
  130 Huntington Hall
  Syracuse University
  Syracuse, NY 13210

  UCIDT joins higher education institutions involved with educational media and technology. Undertakes large-scale research and development contracts. Sponsors training programs.

- LINC Resources, Inc.
  Chuck Lynd, Information Specialist
  (614) 263-2123
  1785 Morse Road, Suite 215
  Columbus, OH 43229

  LINC is a professional marketing organization and information clearinghouse for special education resources. Its SpecialWare Directory (97 pp. $16.95) describes 130 instructional, administrative, or evaluation/testing materials for special education. The directory is available from Oryx Press. 2214 North Central at Encanto, Phoenix, AZ 85004.

LINC (cont.)

LINC is one of the organizations responsible for developing and maintaining two major centers to serve the needs of the special education community: the Special Education Software Center (listed separately) and the Center for Special Education Technology Information Exchange (noted under CEC).

- Council for Exceptional Children (CEC)
  Lynn Smarte, Information Specialist
  (703) 620-3660
  1920 Association Drive
  Reston, VA 22091

  This professional association addresses the educational needs of all exceptional children. Information on using microcomputers for instruction is included in regular CEC publications. CEC operates the ERIC Clearinghouse on Handicapped and Gifted Children (ERIC/EC). It is one of 16 clearinghouses in a decentralized network that assists persons in locating information about research, exemplary programs and curriculum materials.

  The Center for Special Education Technology Information Exchange in cooperation with LINC Resources, Inc. and JWK International Corporation is now in operation. This center focuses on the needs of special educators, administrators and parents for more systematic awareness, planning, selection and use of technology for improving the quality of instruction for handicapped students.

- Technology and Media Division, A Division of the Council for Exceptional Children
  Susan Gorin, Assistant Executive Director
  (703) 620-3660
  Council for Exceptional Children (CEC)
  1920 Association Drive
  Reston, VA 22091

  The Technology and Media Division serves educators, parents and handicapped individuals internationally. Members receive a newsletter and the "Journal of Special Education Technology," published quarterly. SErvices include referral for speakers and technical assistance in using microcomputers. The division also conducts workshops and conferences.

- Project RETOOL: Microcomputer Applications in Special Education
  Elizabeth McClellan, Director
  (703) 620-3660
  Council for Exceptional Children (CEC)
  1920 Association Drive
  Reston, VA 22091

Project RETOOL (cont.)

As part of the Teacher Education Division of CEC, Project RETOOL offers training to teacher educators in application of microcomputers in special education. The project conducts four training session per year. Trainees receive a manual comprising eight self-contained and self-instructional modules. Following a multiplier model of training, the trainees use their knowledge, skills and materials in their teacher education programs.

- The Committee on Personal Computers and the Handicapped (COPH-2)
  (312) 447-1813
  2030 West Irving Park Road
  Chicago, IL 60618

  A consumer organization, COPH-2 provides its members with such services as the opportunity to share information, loan of personal computer, free technical assistance, use of its library resources and a subscription to "Link and Go" its quarterly newsletter. Annual membership is $8 and the first mailing is a kit of materials explaining the various services offered.

- National Association of State Directors of Special Education, Inc.
  (NASDSE)
  Gary Snodgrass, Director of SpecialNet
  (202) 822-7933
  1201 Sixteenth Street NW, Suite 404E
  Washington, DC 20036

  NASDSE is a professional association of State education agency personnel who have legal responsibility for the administration and supervision of special education programs in public schools. NASDSE operates SpecialNet, a National communication/information network for organizations and individuals concerned with special education. Currently, SpecialNet offers 50 electronic bulletin boards, electronic mail for communicating with other subscribers, Education Daily news service and data collection/information management services to its 2,000 subscribers. Topics covered in the bulletin boards include educational technology, software and assistive devices.

  SpecialNet is available to anyone with access to a microcomputer or a computer terminal. A subscription costs $200 per year. Additional charges are the telephone connect time for using the system "SpecialNet Questions and Answers" is a booklet providing detailed information for interested persons.

- National Easter Seal Society (NESS)
  Jean Bartholomew, Newsletter Editor
  Rita McGaughey, Easter Seal Foundation
  (312) 243-8400
  2023 West Ogden Avenue
  Chicago, IL 60612

  NESS is dedicated to establishing and maintaining programs for handicapped individuals, working with other agencies to provide support services and disseminating pertinent information. "Computer Disability News: The Computer Resource Quarterly for People with Disabilities" is a new publication available free upon request. This newsletter highlights programs, products, publications and conferences.

  The Easter Seal Research Foundation seeks grant proposals that integrate research with the development or adaptation of technologies (including access to computer technologies) that help persons with disabilities to be independent. Maximum funding is $25,000 per year for up to 3 years. Applications must be received by March 1 or August 1 each year.

- Sector Project
  Developmental Center for the Handicapped
  UMC-68
  Utah State University
  Logan, UT 84322

  The Special Education Computer Technology Online Resource (SECTOR) Project was funded in 1981 by the Office of Special Education, Utah State Office of Education. The only state-funded computer application resource project in the county, it disseminates information and provides technical assistance to special educators in Utah. Two products developed by the project are available for national distribution. Courseware Evaluation Materials is a compilation of over 50 courseware reviews done by the project. Specialized Applications for Special Educators includes descriptions of technology for special students (e.g., speech synthesis), management software and tolls for evaluating management software. The $15 cost per product includes postage and handling. SECTOR will also handle requests from educators outside the state of Utah.

- Western Center for Microcomputers in Special Education, Inc.
  Sue Swezey, Newsletter Editor
  (415) 326-6997
  1259 El Camino Real, Suite 275
  Menlo Park, CA 94025

  The purpose of this nonprofit corporation is to assist in the effective acquisition and utilization of microcomputers in specialized systems and to share the expertise that has resulted from solving numerous interfacing and operating problems. Western Center offers both technical assistance for using microcomputers in special education and a 10-25 percent educational discount on selected Western Center (cont.)

systems, peripheral devices, control interfaces and software. The Catalyst, an 18-page quarterly newsletter, features article, reader requests, upcoming conferences, excerpts from SpecialNet bulletin boards and announcements of new publications, products and resources. It is available through an annual subscription — $15 for institutions and $10 for individuals.

- Technical Education Research Centers, Inc. (TERC)
  Tim Barclay, Workshop Coordinator
  Peggy Kapisovsky, Publications Director
  (617) 547-3890
  1696 Massachusetts Avenue
  Cambridge, MA 02138

  A nonprofit research and development corporation, TERC is committed to improving education by encouraging the appropriate use of microcomputers in the classroom and laboratory. TERC develops special education materials and distributes them or arranges for distribution. For example, the following are being produced in two projects funded by special education programs. U.S. Department of Education: a microcomputer-based adaptation of four physical science units for mildly learning-disabled elementary students and an adaptive interface to enable physically handicapped individuals to operate standard software on microcomputers.

  TERC offers microcomputer workshops for special education on contract basis and publishes an occasional newsletter, "Hands On", that includes information on special needs populations. A publications list is available on request.

- Vocational Studies Center
  Lloyd Tindall
  (608) 263-3415
  University of Wisconsin-Madison
  964 Educational Science Building
  1025 West Johnson Street
  Madison, WI 53706

  The focus of this research and development center is on vocational education, career development, education and training programs and adult occupational education. Effective Microcomputer Assisted Instruction for the Vocational Education of Special Needs Student is designed to help teachers select and use microcomputer programs for special needs students. It includes descriptions of 130 programs used by practitioners and articles suggesting ideas for classroom use of microcomputers. The 343-page manual is available for $25. Order no. SNE 306. The Vocational Studies Center sponsors an annual microcomputer conference in August that includes sessions addressing special needs.

- Special Education Software Center
  Teresa Middleton, Project Director
  (800) 223-2711 VOICE
  SRI International
  333 Ravenswood Avenue
  Menlo Park, CA 94025

  The Special Education Software Center was recentl
  funding from Special Education Programs, U.S. Depa
  Major objectives are to provide technical assistanc
  special education programs (SRI), to provide an
  software available for special education
  administration (LINC) and , to hold an annual sof
  link developers, educators, students, parents a
  special education (CEC). Services of the Cente
  through various electronic networks as well as
  Other numbers to call are: (415) 859-3382, (800)

CONSULTANTS AND HUMAN RESOURCES

- Anderson, Tony
  Director of Information Services and Educational Technology
  (714) 871-5050
  1401 W. Valencia
  Fullerton, CA 92633

- Ashbaugh, Carolyn
  (916) 758-6722
  1118 Decataur Ct.
  Davis, CA 95616

- Ballesteros-Katz, Josefina
  Consultant
  (213) 557-1561
  2368 D South Beverly Glen
  W. Los Angeles, CA 90064

- Berry, Robert I.
  Director of Data Processing
  (714) 383-3564
  201 North E. Street
  San Bernardino, CA 92415-0020

- Callison, Wm.
  (714) 773-3911
  CSU, Fullerton
  Fullerton, CA 92634
  Computers and Education

- Casselle, Vicki
  (415) 469-1890
  S.F. State U.
  1600 Holloway Avenue
  San Francisco, CA 94132
  Micros & The Handicapped

- Collins, Joan
  Woodcrest School
  (714) 526-4633
  455 W. Baker Ave.
  Fullerton, CA 92632

- Cook, Al
  CSUS Assistive Device Center
  (916) 454-7326
  6000 J Street
  Sacramento, CA 95819-2694
  Assistive Devices & The Handicapped

- Dutton, Dale
  Tri-City SERN CAC
  (213) 395-4866
  346 19th Steet
  Santa Monica, CA 90402
  Training, consulting, workshops

- Elder, Tom
  Hesperia Elementary District
  (619) 244-9323
  9144 Third Street
  Hesperia, CA 92345

- Emal, Dave
  Diagnostic Teacher/Comp. Resource
  (714) 623-5251
  605 N. Park Ave.
  Pomona, CA 91766

  Students bused to lab. 1 hr. per week; 5 Apples; 2 as "floaters" in rotating classrooms; software assistance; user meetings; Admin: student & staff files, class lists, budget for dept.

- Enell, Nancy
  San Juan Unified School District
  (916) 484-2011
  3738 Walnut Avenue
  Carmichael, CA 95608
  Microcomputer-Generated IEPs

- Fisher, Glenn
  Alameda County Superintendent of Schools
  (415) 526-8068
  1517 Holly Street
  Berkeley, CA 94703

  Providing training and consulting in uses of microcomputers in schools including planning, curriculum, staff training and equipment selection and purchase.

- Hannah, Larry
  CSU Sacramento
  (916) 454-7022
  6000 J Street
  Sacramento, CA 95819-2694
  Micros in Education/Implementing
  Microsystems in Districts/County

- Harris, Martin
  (916) 756-1328
  555 Reed Drive
  Davis, CA 95616
  MicroComputer generated data bases, software and training

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- Headley, Judy
  Computer Coordinator
  (805) 964-4711
  4400 Cathedral Oaks Rd.
  Santa Barbara, CA 93111

- Hess, Judith F.
  (619) 243-1627
  16330 Cabrillo Dr.
  Victorville, CA 92392

- Hudson, David
  Region 4 TEC Center
  (916) 363-6758
  9738 Lincoln Village Dr.
  Sacramento, CA 95827
  MicroComputers, Software

- Johnson, Jim
  Elk Grove Unified
  (916) 685-3987
  8820 Elk Grove Blvd.
  Elk Grove, CA 95624
  Administrative usages

- Jones, Robert
  Regional Data Processing Network
  (213) 922-6485
  9300 E. Imperial Hwy.
  Downey, CA 90242

- Mills, Louis
  Henge Corporation
  (707) 923-5226
  7415 Saraview Way
  Sebastopol, CA 95472

  Usually 1 1/2 to 4 hour training sessions depending on the needs of the group, topics, etc.

- Mills, Louis
  (707) 823-5226
  7415 Saraview Way
  Sebastopol, CA 95472

- Moore, Barbara
  Commonwealth School
  (714) 870-8432
  2200 E. Commonwealth Ave.
  Fullerton, CA 92631

- Ostertag, Bruce A.
  CSU Sacramento
  (916) 454-6117
  6000 J Street
  Sacramento, CA 95819-2694
  Micros & The Handicapped

- Perry, Ted
  Region 4 TEC Center
  (916) 363-6758
  9738 Lincoln Village
  Sacramento, CA 95827
  Software-Special Education; Bulletin Boards

- Rosenberg, Perry
  Consultant
  (213) 803-8338
  9300 E. Imperial Highway
  Downey, CA 90242

  People, places, things inventory, computer literacy training for special educators, software authoring w/ voice synthesis. Various administrative data bases.

- Smith, Gregory L.
  Educational Research Consultants
  (916) 481-5866
  5445 Wildflower Circle
  Carmichael, CA 95608
  Consultation and software provision for computer based management information systems.

- Thorpe, Bill
  CSU Sacramento
  (916) 454-9384
  6000 J Street
  Sacramento, CA 95819-2694
  Inter-active Video

- Uslan, Dave
  California State Department of Education Clearinghouse
  (916) 383-1119
  1028 P Street
  Sacramento, CA 95814
  Over-view presentation of Micros

- Wilson, Peggy
  (415) 641-0305
  18 Harper Street
  San Francisco, CA 94131

ORGANIZATIONS DOING RESEARCH AND DEVELOPMENT

- Bank Street College of Education
  (212) 663-7200
  610 West 112th Street
  New York, NY 10025

  The Children's Electronic Laboratory at Bank Street conducted a national study of microcomputer use in classrooms and in-depth study, using the Logo language, on the interaction of children and electronic technology.

- Bolt, Beranek and Newman, Inc.
  (617) 497-3897
  50 Moulton Street
  Cambridge, MA 02138

  Bolt, Beranek and Newman has been active in the development of numerous educational computing applications including Logo. Among their current projects are a language arts program that uses microcomputers and a microcomputer-based writing curriculum for upper elementary students.

- Center for Research on Learning and Training (CRLT)
  (313) 763-4410
  University of Michigan
  109 E. Madison Street
  Ann Arbor, MI 48104

  CRLT has been involved with a number of resource, networking, and telecommunications projects. A primary project, Dataspan, is currently setting up an information bank to provide assistance to science and math educators on computer applications and exchange of information.

- Computer Literacy, Inc.
  c/o Arthur Leuhrmann
  (415) 644-2400
  1466 Grizzly Park Blvd.
  Berkeley, CA 94707

  Computer Literacy, Inc. provides courses in computing for teachers and others in the community. In addition, the company assists in curriculum planning for schools and conducts major writing projects in Pascal and computer literacy.

- Educational Technology Center
  (714) 833-7452
  University of California, Irvine
  Irvine, CA 92717

  The Educational Technology Center has been responsible for a number of curriculum development projects using computer-based materials; subjects include developing learning skills, scientific literacy, and college-level science. Publications include a newsletter.

- Monroe C. Gutman Library
  (617) 495-4225
  Graduate School of Education
  Harvard University
  Appian Way
  Cambridge, MA 02138

  The Gutman Library publishes a guide, the Microcomputer Directory: Applications in Educational Settings, which describes school programs in microcomputers throughout the country. Serves as a source of information and ideas.

- Human Resources Research Organization
  (703) 549-3611
  300 North Washington Street
  Alexandria, VA 22314

  HumRRO is a behavioral science research organization that is pursuing several projects on CAI systems and materials. Professional papers outlining research in computers in education are also available from HumRRO.

- Intentional Educations, Inc.
  (617) 923-7707
  51 Spring Street
  Watertown, MA 02172

  Intentional has developed a wide range of educational materials, including software for use in schools and educational games for home use. Publications include Classroom Computer News and the Addison-Wesley Series on Computers in Education. A complete directory of information on computer resources and materials is maintained and updated to provide the basis of the Annual CCN Directory of Educational Computing Resources.

- Microcomputer Resource Center
  (212) 678-3740
  Teachers College
  Columbia University
  New York, NY 10027

  The center, part of the Computing in Education program at Teachers College, is an excellent resource for teachers wanting to integrate (cont.)

microcomputers into their curricula. The center conducts seminars and workshops on curriculum materials and conducts field-based training for classroom computer use. It also serves as a clearinghouse for hardware and software information.

- Minnesota Educational Computing Consortium
  (612) 376-1101
  2520 Broadway Drive
  St. Paul, MN 55113

  MECC, supporting the nation's only statewide instructional computing effort, is organized to coordinate and provide computer services for the students, teachers, and administrators in Minnesota public schools and colleges. MECC provides inservice training and curriculum guides, as well as develops and distributes educational software. MECC is an excellent source of software and written materials for use with Apple II and Atari microcomputers.

- Technical Education Research Centers
  (617) 547-3890
  8 Eliot Street
  Cambridge, MA 02138

  TERC is active in the research and development of educational computing primarily in science and math education. Efforts in this project include laboratory applications of computers at the junior high, high school, and college levels. TERC is actively involved in hardware and software development and conducts extensive training programs nation-wide, including the National Workshop Series, the Computer Information Service, the Summer Workshop Series, and the Saturday Logo Series. Publications include Hands On! newsletter.

- Xerox
  (415) 494-4000
  Palo Alto Research Center
  3333 Coyote Hill Road
  Palo Alto, CA 94304

  The Learning Research Group at PARC developed the Smalltalk-80 interactive language, which promises to enhance many future educational programs. The Cognitive and Instructional Sciences Group at PARC has developed detailed cognitive models for diagnosing students' misconceptions in skills such as arithmetic. The group is also interested in designing and using motivating computer educational games.

ARTICLE ABSTRACTS

This section abstracts articles from periodicals that could be useful to the special education administrator and/or staff. Information on journal subscriptions is not provided as this information is subject to rapid change. A list of the publications available through the Special Education Resource Network - Resource Service Center is given at the beginning. The abstracts are organized in this section by the following descriptors:

*Spread Sheets

*Data Base Management

*Online

*Purchasing

*Systems

*Maintenance

*Word Processing

*Human Resources

*Other

Items available through the Resource Service Center will show "SERN-RSC RECORD NUMBER (and the number)." Be sure to use this number when ordering.

PERIODICALS IN THE SPECIAL EDUCATION RESOURCE NETWORK
RESOURCE SERVICE CENTER

Publication Title	Subscription Starting Date	
ADVISOR--DATA BASED BUSINESS SOFTWARE	April 1984	discontinued
BUSINESS SYSTEMS/ PRODUCT UPDATE	October 1983	
BYTE	October 1982	
CATALYST	October 1981	
CLOSING THE GAP	May 1983	
COMPUTE	May 1984	
COMPUTER	May 1984	
COMPUTER DECISIONS	November 1983	
(THE) COMPUTING TEACHER	November 1983	
COUNTERPOINT	June 1982	
CP/M REVIEW	June 1983	discontinued
CREATIVE COMPUTING	April 1981	
DATA BASED ADVISOR	April 1984	discontinued
DESK TOP COMPUTING	February 1983	discontinued
ELECTRONIC LEARNING	September 1984	
ETC.	February 1983	discontinued
FACTS AND FINDING		
GRANTSMANSHIP CENTER NEWS		
INFO WORLD	January 1983	
INFORMATION MANAGEMENT		
INSERVICE NEWSLETTER (NCSI)		
INTERFACE AGE	January 1981	
LINK UP	November 1983	
MICROCOMPUTERS IN EDUCATION	December 1982	
MICRO COMPUTERIN		
MICRO CORNUCOPIA		
MICROSYSTEMS	June 1983	
NEWS		
ONLINE TODAY	December 1983	
PERSONAL COMPUTING	November 1980	
PERSONAL REPORT FOR THE EXECUTIVE		
PERSONAL REPORT FOR THE SECRETARY		
PERSONAL SOFTWARE	November 1983	
POPULAR COMPUTING	June 1983	discontinued
PORTABLE COMPUTER	August 1983	
PROFILES	December 1983	

Publication Title	Subscription Starting Date
SACRAMENTO VALLEY COMPUTER NEWS	November 1983
SCHOOL MICROCOMPUTING BULLETIN	September 1984
SCHOOL TECH NEWS	December 1983
SMALL BUSINESS ILLUSTRATED	
SYSTEMS UPDATE	
TELCOMS INTERACTIVE TELECOMMUNICATIONS NEWSLETTER	
TELCOMS NEWSLETTER	
TODAY	
TRAINING	

SPREAD SHEETS

- Judd, D.H. "A VisiCalc template you can use". Educational Computers, November/December 1983, 3(7), 49-51.

  ABSTRACT:
  Judd provides a step-by-step procedure for using VisiCalc as a gradebook record for student achievement. Instructions on creating a template, entering trial data, and using the finished template for recordkeeping are included. (SE)

- Beil, Donald. "The Capabilities and Limitations of a VisiCalc System". Interface Age (May 1983), 115-121.

  ABSTRACT:
  An excellent article for any administrator contemplating the purchase of a spreadsheet program. Uses a realistic example to explain the pluses and minuses of VisiCalc.

- "VisiCalc". Business Software, Vol. 1, No. 5, 09/01/1983

  ABSTRACT:
  This short article provides excellent practice in setting up a worksheet using VisiCalc. It also provides instruction in the use of the MIN function. The instructions are explicit and would be useful for a novice or intermediate level user.
  SERN-RSC RECORD NUMBER: 842

- Whiting, Barbara. "Budget Management For Administration". Closing the Gap, 04/01/1983

  ABSTRACT:
  This short article describes how a computer spreadsheet, VisiCalc, is useful for a school administrator.
  SERN-RSC RECORD NUMBER: 853

- Rogers, Michael. "Well-Tempered Spreadsheets". Personal Software, V.1, No.1, 11/01/1983

  ABSTRACT:
  This short article lists the features of MultiPlan, a spreadsheet program which runs on Apple II plus, IIe; IBM PC, and CP/M. The article points to the special features which make this spreadsheet powerful and easy to use.
  SERN-RSC RECORD NUMBER: 835

- McMullen, Barbara E. and John F. "Super Spreadsheets: How Do They Compare?" Popular Computing, Vol. 2, No. 8, 06/01/1983.

  ABSTRACT:
  This is an excellent article for any administrator contemplating the purchase of a microcomputer spreadsheet program. It provides a feature-by-feature evaluation of VisiCalc, VisiCalc Advanced Version, Multiplan, and SuperCalc.
  SERN-RSC RECORD NUMBER: 844

- Wilson, Kirk. "Managing The Administrative Morass Of Special Needs". Classroom Computer News, Vol. 1, No. 4, 01/01/1981.

  ABSTRACT:
  This short article describes in general terms how microcomputers can save teacher and administrator time by facilitating the handling of paperwork. It also includes brief descriptions of IEP generating programs available from Turnkey Systems, and Learning Tools Inc.
  SERN-RSC RECORD NUMBER: 850

DATA BASE MANAGEMENT

- Shea, John. "Time-Saving Routine Using dBASE II". Interface Age. (August 1983), 137-138.

  ABSTRACT:
  A helpful article for any dBASE user. Includes a fairly simple program designed to locate duplicate addresses in a name and address file. ...

- Dvork, John. "Data Base Management Systems: What are they? Why use them?" InfoWorld. (May 23, 1983), 31-33.

  ABSTRACT:
  An excellent article which explains how the various data base managers differ and which gives some general tips on the managers that work best for simple and complex recordkeeping.

- Brevdy, June. "Choosing a Data Base Program Is Not an Easy Task." InfoWorld (May 23, 1983), 1 36-37.

  ABSTRACT:
  A very readable comparison and evaluation of DBMaster, Personal Pearl, and dBase II.

- Zarley, Craig. "File But Never Forget". Personal software, V.1, No. 1, 11/01/1983.

  ABSTRACT:
  This article lists some of the features of PFS:FILE, a data base program which runs on IBM PC, TI PC, Apple II, IIe, and III. It provides a clear overview of the potential uses of the software; but no comparison of the features of PFS:File to other data base software.
  SERN-RSC RECORD NUMBER: 836

- Dickey, Bill. "dBase II: Setting Up a Data Base". Business Software, Vol. 1, No. 5, 09/01/1983.

  ABSTRACT:
  This is an excellent article for any novice dBASE II user. It is a detailed tutorial which provides practice with the following operations: Assigning a File Name; Creating a Structure; Modifying the Structure; Entering Data; Editing Data.
  SERN-RSC RECORD NUMBER: 843

ONLINE

- Derfler, Frank. "Software Review—Crosstalk XVI". InfoWorld. (October 1983), 40-43.

  ABSTRACT:
  Describes a new version of the Crosstalk Communications package that runs on the IBM PC. Evaluates the software as a "complete program with no limitations on performance".

PURCHASING

- Bonner, Paul, and James Keogh. "Connected! A Buyer's Guide on Modems". Personal Computing. (April 1984), 146-161.

  ABSTRACT:
  Excellent reading for any computer user in need of a modem. Includes a thorough discussion of what to look for when purchasing a modem. Lists the specifications of over 90 modems and an address list of modem manufacturers.

- Chin, Kathy. "Know Hidden Costs Before You Automate". InfoWorld. (June 6, 1983), 22-23.

  ABSTRACT:
  A concise, well-written article that gives some general guidelines on who needs computers and on some general cost considerations (e.g. consultants, peripherals, and additional furnishings).

- Berst, Jesse. "Using Computer Consultants". Interface Age. (August 1983), 42-48.

  ABSTRACT:
  An informative article that tells when to hire a consultant to assist in the purchase of computer hardware and software and staff training. Includes specific advice on how to hire a top notch professional consultant.

- Benson, Terry. "RFP: A Professional Approach to Buying a Business System". Interface Age. (May 1983),1 54-59.

  ABSTRACT:
  Describes in step-by-step sequence how one business established its needs for a computer, communicated these needs to dealers through a Request for Proposal (RFP) format, and finally purchased a system compatible to these specifications. Although the computer purchased was a mainframe, the assessment and purchase process described is also applicable to microcomputers.

- Chin, Kathy. "Consultant Offers Purchasing Advice". InfoWorld. (June 20, 1983), 26.

  ABSTRACT:
  An excellent article which contains specific advice on purchasing hardware. Included are "hard hitting questions to ask computer salespeople".

- Berst, Jesse. "Where Computer Buyers Go Wrong". Interface Age. (May 1983), 32-35.

  ABSTRACT:
  Lists and discusses seven pitfalls that often trip up unwary buyers. Several mistakes to avoid are:

  1. purchasing hardware first
  2. signing inadequate contracts
  3. buying from the wrong dealer
  4. ignoring hidden costs.

- Gabel, David. "Word Processing: Finding The Right Software". 04/01/1983.

  ABSTRACT:
  This excellent article provides help in selecting the right word processing software to meet you needs. It offers some advice in determining what your needs are, explains how to shop for software, and includes a detailed listing of the features of all the major word processing packages.
  SERN-RSC RECORD NUMBER: 848

- Krapp, Linda. "Buyer's Guide To Word Processors". Electronic Learning, Vol. 3, No. 6, 03/01/1984.

  ABSTRACT:
  This is an excellent article for any potential buyer of word processing software. It contains a comprehensive listing of what features to consider when purchasing a word processor. It includes a short test drive (evaluation form) and a comparison of the features of 34 word processors. Highly recommended.
  SERN-RSC RECORD NUMBER: 841

SYSTEMS

- Pearlman, Dara. "MUMPS to Link Micro to Mainframe". Popular Computing. (June 1983), 196-197.

  ABSTRACT:
  A description of MUMPS—a computer language that has been used for successful micro-mini-mainframe networks. MUMPS will run on the Apple and is available in a public domain version.

- Fox, Tom. "A Computer Powered for the future--The Altos 586-10". Interface Age. (August 1983), 81-84.

  ABSTRACT:
  Describes the Altos 586 as a multi-user 16 bit system with local networking capability and wide software compatibility. Useful article for an administrator who has out-grown a simpler microcomputer and is in need of the complex features of the Altos.

- Benson, Terry. "Hard Disk Add-ons For Expanded Memory". Interface Age. (August 1983), 59-67.

  ABSTRACT:
  A useful article for any office planning to institute a networking system. Includes a detailed chart of hard disk basic specifications and equipment information.

- Burgener, Gerald, and Gary Sarff. "Micro-Mainframe Linkage". Conference Proceedings--Microcomputers in K-12 Education. ed. Pierre Barrette. Rockville, Maryland: Computer Science Press,1 1982, 37-38.

  ABSTRACT:
  An excellent description of one district's micro-mainframe linkage. Specific details on the hookup include:

  1. insuring compatibility of data files
  2. interruption of file transmission to prevent buffer overloading
  3. purchasing compatible modems.

HARDWARE

- Immel, A. Richard. "The Micro-Mainframe War". Popular Computing. (June 1983) 46-60.

  ABSTRACT:
  A somewhat wordy and rambling article that does offer insight into the technical and personnel problems that erupt when micros encroach on mainframe turf.

- Beechhold, Henry. "MT 160-L, Mannesmann Tally's Dot Matrix Printer." InfoWorld. (June 20, 1983), 67-70.

  ABSTRACT:
  Describes and rates the Mannesmann Tally printer. Evaluation is so detailed that it provides excellent insight into what features to look for when purchasing a printer.

- Powell, David B. "The Buyer's Guide--A Gallery of the Top 40 Printers for Under $1000". Popular Computing. (July 1983), 106-136.

  ABSTRACT:
  Highly recommended as a concise catalog of computer printers. Contains summaries of each printer's important specifications and capsule reviews stressing the major strengths and weaknesses of each machine.

- Chin, Kathy. "Dedicated Word Processors and Micros Compete". InfoWorld. (December 12, 1983), 21-23.

  ABSTRACT:
  Describes how several computer manufacturers-NBI, Wang, and Lanier--are now providing CP/M as an option for their stand-alone systems.

- Williams, Warren S. "Microcomputer Update: The New Apples Are Here". Educational Technology, 03/01/1983.

  ABSTRACT:
  This article lists the specifications of the Apple IIe and the LISA. The article is especially useful in comparing the major improvements of the IIe over the II and the II+.
  SERN-RSC RECORD NUMBER: 846

MAINTENANCE

- Braden, William. "Getting Your Micro Repaired". Popular Computing. (May 1983),1 54-58.

  ABSTRACT:
  A humorous article which offers specific, detailed repair tips (e.g. to buy all peripherals from one manufacturer and to check on the availability of loaners). Also offers unbiased advice on the purchase of service contracts.

WORD PROCESSING

- Pennington, J. R. "Word Processing And Teacher Evaluation". Electronic Learning, Vol. 3, No. 6, 03/01/1984.

  ABSTRACT:
  This short article describes how one administrator used word processing to make his teacher evaluation forms more effective. In general terms he tells how he created a form memo on the word processor and then a series of short files - each containing a commendation or recommendation.
  SERN-RSC RECORD NUMBER: 840

HUMAN RESOURCES

- Lowrie, Charlotte K. "User's Groups". Portable Computer, Vol. 1, No. 4, 09/01/1983.

  ABSTRACT:
  This short article lists the benefits of user groups, including: servicing as a clearinghouse for public domain software; publishing a newsletter with helpful hints, problem solving, exchanging ideas and solutions. The article also contains specific advice on forming a user's group.
  SERN-RSC RECORD NUMBER: 838

OTHER

- Taffee, S. "Software side by side: A comparative look at educational software--Grade reporting packages". Electronic Learning, February 1984, 3 (5), 72-73.

  ABSTRACT:
  Seven grade reporting packages are reviewed by Taffee. Each program is rated on a scale of 1-5 for ease of use, flexibility, support materials and overall value.

- Titus, Richard O. "Overcoming Computer Phobia". Interface Age. April 1983), 47-49.

  ABSTRACT:
  Discusses one of the most critical factors in computer implementation—personnel acceptance of the computer a as working tool. Includes coping strategies such as:

  1. recognizing employee insecurities
  2. developing training alternatives
  3. developing a realistic start-up schedule.

- "Rural special education services, activities and products". Exceptional Children, January 1984, 50 (4), 368-369.

  ABSTRACT:
  Highlights of the services, activities and products offered by the American Council on Rural Special Education are described in this brief article. Activities include a nationwide job referral system to link educators and administrators, an electronic bulletin board (part of SpecialNet), inservice and preservice training models, a preservice consortium, and a newsletter.

  *special education *electronic network *training *rural

- Helge, D. "Technologies as rural special education problem-solvers". Exceptional Children, January 1984, 50 (4), 351-358.

  ABSTRACT:
  "Advanced technologies are emerging in rural school systems. This article discusses the availability of a variety of new technologies and their primary uses for instructional support, instructional management, and staff development. Problems on initiating new technologies in rural environments and suggestions for using them are discussed. Successful technological models and projected future uses are described." (Author)

  *videodisc *microcomputer *training

- Ragghianti, Suzanne, and Rosemary Miller. "Microcomputer And Special Education Management". Exceptional Children, Vol. 49, No. 2, 10/01/1982.

  ABSTRACT:
  This collection of 3 articles provides information on SEMS - a Special Education Management System. The first article describes the system in detail. The second article describes the 4 types of information and management needs the system could meet. Finally, the third article provides specific examples of how the system can manage assessment data.
  SERN-RSC RECORD NUMBER: 824

- Hayden, David, Booney Vance, and Martha S. Irvin. "SEMS: A Special Education Management system". Journal of Learning Disabilities, 01/01/1982.

  ABSTRACT:
  This collection of 3 articles provides information on SEMS - a Special Education Mangement System. The first article describes the system in detail. The second article describes the 4 types of information and management needs the system could meet. Finally, the third article provides specific examples of how the system can manage assessment data.

- Beach, Robert H., and Ronald A. Lindahl. "Hidden Costs or Training Your Staff". Electronic Learning, Vol. 3, No. 7, 04/01/1984.

  ABSTRACT:
  This article advises administrators to count on spending as much money on office staff training as they do on hardware. It also covers the topics of who should be trained, how much training should be provided, and who should do the training.
  SERN-RSC RECORD NUMBER: 837

- Bernstein, Ed. "Bank Street Writer, Word Processing for Apple". InfoWorld. (June 6, 1983), 52-56.

  ABSTRACT:
  Rates Bank Street Writer as an excellent and simple to use work processing program.

- Johnson, Bob. "School DP Administrator Discusses Computer Crime". InfoWorld. (June 20, 1983), 8.

  ABSTRACT:
  A discussion of the task of computer security as physically securing the hardware and also guarding the students' personal information stored in the system. Includes one administrator's tentative solutions to the problems of computer security.

- Ahl, David. "Protect Your Computer from the Power Line Monsters". Creative Computing. (May 1984), 45-56.

  ABSTRACT:
  A useful article for determining which power line conditioner best meets your needs to prevent blown out modems and loss of files in memory.

BOOK ABSTRACTS

This section abstracts books that can be of interest and use to the special education administrator and / or staff. They are organized in this section by the following descriptors:

- Purchasing
- Systems
- Data Base Management
- Resources
- Reports
- Records
- Other

Selections available through the SERN-Resource Service Center are designated by "SERN-RSC RECORD NUMBER: (and show the number)". Please be sure to include this number when ordering materials.

PURCHASING

- Barden, William. What Do You Do After You Plug It In? Indianapolis, Indiana: Howard W. Slams & Co, 1983.

  ABSTRACT:
  A very readable, informative guide to understanding and purchasing computer hardware and software. Includes tips on what to look for when making microcomputer purchases—an excellent resource for a novice computer user.

- Calmus, Lawrence. The Business Guide to Small Computers. McGraw Hill, 1983.

  ABSTRACT:
  A step-by-step guide to costs, maintenance, implementation, and systems design for small business computers. Includes an excellent section on conducting a thorough analysis of an organization's needs.

- Anon. The Software Catalog. New York, New York: Elsevier Science Publishing Co, 1983.

  ABSTRACT:
  A comprehensive, continuously updated reference service for information about the availability, price,l applications, and compatibility of packaged software. Published twice a year, in spring and fall. Contains an almost overwhelming amount of information.

- Eischen, Martha. Compu Guide: A Consumer's Guide To Small Business Computers. Beaverton, Oregon: Dilithium Press, 1982.

  ABSTRACT:
  Covers a wide range of topics from shopping for computers to installations. Written in simple, readable language and discusses topics in general terms. Chapters entitled, "How to Keep Your Staff happy" and "Installation and Implementation" are especially useful in describing necessary personnel adjustments.

- Grosswith, Marvin. Beginner's Guide to Home Computer. Garden City, New York: Doubleday & Co, 1968.

  ABSTRACT:
  A readable and comprehensive introduction to understanding, operating, and selecting a personal computer. Written for novices—provides no specific hardware or software information.

PURCHASING

- Barden, William. What Do You Do After You Plug It In? Indianapolis, Indiana: Howard W. Slams & Co, 1983.

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  A very readable, informative guide to understanding and purchasing computer hardware and software. Includes tips on what to look for when making microcomputer purchases--an excellent resource for a novice computer user.

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- Eischen, Martha. Compu Guide: A Consumer's Guide To Small Business Computers. Beaverton, Oregon: Dilithium Press, 1982.

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  ABSTRACT:
  A readable and comprehensive introducation to understanding, ooperating, and selecting a personal computer. Written for novices--provides no specific hardware or software information.

- Williams, Peter. The Personal Computer Book. Los Angeles, California: Prelude Press, 1983.

  ABSTRACT:
  An informative, humorous guide to purchasing computer hardware. Includes a name-brand buying guide, updated to May 1983.

- Radin, Stephen, and Harold Greenberg. Computer Literacy for School Administrators and Supervisors. Lexington, Massachusetts: Lexington Books, 1983.

  ABSTRACT:
  Written for a novice computer user in broad, general terms. Covers topics such as assessing costs, funding an effective computer facility, setting up a computer facility, classroom computer uses, and national trends in the computer revolution.

- Birnbaum, Mark, and John Sickman. How to Choose Your Small Business Computer. Addison-Wesley, 1983.

  ABSTRACT:
  A concise, well-written book designed to "enable you to walk unafraid into a computer store and understand what the salesperson is saying". Especially useful is the section entitled: How to Computerize Your Business. The section includes chapters on:

  1. Do You Really Need a Computer?
  2. Making the Selection
  3. How to Pick and Use a Consultant
  4. Contracts and Negotiations

- Naiman, Adeline. Microcomputers in Education: An Introduction. Chelmsford, MA, Northeast Regional Exchange, 01/01/1982.

  ABSTRACT:
  This guide emphasizes the need for planning before making hardware and software purchases and before integrating microcomputers into the curriculum. It offers specific advice on planning pitfalls and funding strategies...an excellent handbook for an administrator just entering the field of microcomputers.
  SERN RSC RECORD NUMBER: 857

- Sloane, Eydie. Microcomputing Periodicals. Miami, FL, Florida Diagnostic and Learning Resources System-S, 01/01/1983

  ABSTRACT:
  This is a very comprehensive guide to magazines, journals, newletters and periodicals that deal with microcomputers.
  SERN RSC RECORD NUMBER: 856

- Eadie, Donald. A User's Guide to Computer Peripherals. Englewood Cliffs, New Jersey: Prentice Hall Inc, 1982.

  ABSTRACT:
  Written for the intermediate and advanced level computer user. Includes:

  1. a brief review of the characteristics of peripheral devices which could be considered for use with computer systems of various types and used for different applications
  2. a catalog of those devices to be used for newer systems
  3. a discussion of the methods and magnitude of the interfacing problem.

DATA BASE MANAGEMENT

- Kruglinski, David. Data Base Management Systems. Berkeley, California: Osborne/McGraw Hill, 1983.

  ABSTRACT:
  A readable, informative source on data base management software. Helpful in making decisions regarding the purchase of such software. Provides an in-depth review of dBASE II, FMS-80, Condor Series 20, and MDBS III.

- EduTech, EduTech Annotated Bibliography. Annandale, VA, JWK International, 01/01/1982.

ABSTRACT:

Project EduTech is designed to assist educators in finding technological applications that may help resolve special education issues. Part of the project entails distribution of annotated bibliographies on specific technologies or applications. The RSC has the following bibliographies: 1) Technology Periodicals, 3/82: 2) Microcomputer Technology in Education, 4/82; 3) Selection of Microcomputers, 11/82; 4) Management Information Systems, 11/82; 5) Technology Periodicals, 10/82; 6) Computer Literacy, 11/82 9) CAI: Reading, Writing & Communication, (not annotated), 11/82; 10) Software, 3/83; 11) we don't have 12) Associations, 3/83; 13) Computer Periodicals, 3/83; 14) Technology Periodicals, 3/83; 15) Television Applications in Education, 3/83; 16) Videodisc, 3.83; 17) Technology & the Hearing Impaired, 3/83; 18) Technology is Special Education, 3/83; 19) Technology in Special Education: Support of Instruction, 3/83; 20) Technology in Special Education, 9/83.

SERN RSC RECORD NUMBER: 832

REPORTS

- Taking The Drudgery out of Administrative Reports.

  ABSTRACT:
  This short guide is written by a special education coordinator currently making extensive use of microcomputers for program management. It is written for administrators ready to set up a spreadsheet or database program. It contains specific, detailed information, but is not written at the novice level.
  SERN RSC RECORD NUMBER: 855

- Microcomputers in Special Education

  ABSTRACT:
  This is a collection of articles and handouts compiled by Dr. Bruce Ostertag for his "Introduction to Microcomputers in Special Education" class at CSUS. Topics covered include: introduction to computer hardware and software, advantages and disadvantages of computer assisted instruction, use of pilot and co-pilot (authoring programs), computer magazines, evaluating hardware and software, teacher recommended software, for the handicapped, LOGO for educating disabled children.
  SERN RSC RECORD NUMBER: 819

- Microcomputers in Education: Resource Handbook. Cambridge, MA, Technical Education Research Centers, 01/01/1983.

  ABSTRACT:
  This handbook gives the computer novice some listings on hardware resources, software resources, educational organizations, and pertinent literature. It does not contain descriptive or evaluative information. Instead, it constains extensive lists of addresses and phone numbers. It would be useful for school administrators who wish to collect information before making hardware and software purchases.
  SERN RSC RECORD NUMBER: 821

- Software Finder: A Guide to Educational Microcomputer Software. Dresden, ME, Dresden Assoc.

  ABSTRACT:
  This is an excellent source of information on software for classroom and management uses. It contains extensive listings of software grouped by application. It provides a short description of the software and specific details on the hardware required. It also contains a very complete listing of software suppliers.
  SERN RSC RECORD NUMBER: 831

- Nave, Gary. Computer Technology for the Handicapped in Special Education and Rehabilitation: A Resource Guide. Eugene, International Council for Computers in Education, 01/01/1983.

  ABSTRACT:
  This resource guide to available literature is well organized with multiple indexes. It covers instructional and management applications. At the management level it provides references to: MONITOR: A computer based management information system for special education, CAMEO: Computer-assisted management of educational objectives, Computer-based IEP's written in Ohio, and others.
  SERN RSC RECORD NUMBER: 859

- Archer, Doug. Using the Apple II Microcomputer to Facilitate the Development of the Individualized Education Plan.

  ABSTRACT:
  This short article describes how an existing software package (PIE-Programming for Individualized Instruction) was modified for school use. PIE was designed both to maintain and generate IEP's. The article describes the features of the software and the hardware configuration.
  SERN RSC RECORD NUMBER: 823

OTHER

- Gupton, James. Getting Down To Business With Your Microcomputer. Northridge, California: Sourcebooks, 1979.

  ABSTRACT:
  Provides a general overview of microcomputers and their uses in small businesses. Much of the specific hardware information is dated. Does offer useful general tips on determining who will operate the microcomputer and how to phase-in the system.

- Shirinian, George. Microcomputer Periodicals: An Annotated Bibliography. Toronto, Canada, 1983.

  ABSTRACT:
  An excellent resource guide. Lists small press publications and local newsletters as well as the more well known publications. Includes a short description of each publication and a subject index.

- Anon. Computer and Control Abstracts. Piscataway, New Jersey: INSPEC (The Institute of Electrical Engineers).

  ABSTRACT:
  An excellent resource for finding literature on a specific microcomputer topic. The abstracts are published monthly, and subject and author indexes are published twice yearly.

- Hanley, Tom V. Microcomputers in Special Education: Organizational Issues. Arlington, VA, SRA Technologies, 10/31/1983.

  ABSTRACT:
  This report summarizes the major findings of case studies in 12 school districts that used microcomputers to support services in their special education programs. The issues reported on include: centralized vs. decentralized organization, microcomputers vs. mainframe or mini-computers and balancing administrative and instructional applications.
  SERN RSC RECORD NUMBER: 818

- Pitts, Marcella R. Educator's Unauthorized Microcomputer Survival Manual. Washington, DC, Council for Educational Development and Research.

  ABSTRACT:
  This manual provides a brief overview to all phases of microcomputer use in education. At the administrative level, it provides very general information on management applications. This manual is most useful for a computer novice.
  SERN RSC RECORD NUMBER: 828

- Computers. 09/01/1983.

ABSTRACT:
This collection of articles from Consumer Reports, Sept. 1983, provides excellent introductory information for anyone considering the purchase of a microcomputer. The articles discuss what computers can do, how computers are being used, and how to buy a computer. One article includes specific, detailed information comparing 17 brands of microcomputers, however, the information is somewhat outdated with all the new hardware introduced this year.
SERN RSC RECORD NUMBER: 320

ON-LINE RESOURCES

On-line resources are those accessed by your microcomputer via modem and telephone line. They include networking systems and data bases to which the user subscribes. Once the subscription fee is paid the user can access some resources for only the cost of their phone time. For other services they will be charged a fee.

This section will address:

Special Net
CompuServe
ERIC

SPECIALNET*

SPECIALNET is a computer-based communications system based in Washington, D.C. and operated by the National Association of State Special Directors of Special Education (NASDSE). In order to be on the system one must have a word processor or computer which is compatible with the system, i.e., asynchronous; set to operate in full duplex and even parity, stop-start protocol, at 300 or 1200 baud; and must be used with a telephone modem or acoustic coupler. The yearly subscription to SPECIALNET may receive information from the present 22 bulletin boards, described below, and may send and receive electronic mail to and from other subscribers.

The present bulletin boards include:

1. CALIFORNIA - Reports from the State Department of Education including information regarding legislation, regulaltions, funding, and other items of interest to California Special Education.
2. FEDERAL - What is happening in Washington, D.C. regarding special education. Articles provided by the NASDE Liaison Bulletin staff.
3. LITIGATION - Brief descriptions of court cases and hearing decisions with references to assist the reader in obtaining indepth information on particular cases. Updates supplied by the editors of the Handicapped Law Review.
4. RFP - The acronym for Requests For Proposals. This bulletin board lists requests for proposals and grants that relate to special education provided by NASDE.
5. CONSULTANT - Listing of consultants in various areas of special education.
6. EARLYCHILDHOOD - Information pertaining to services for handicapped children from 0-8 years of age.
7. PRACTICES - Descriptions of promising practices from around the nation regarding provision of services for handicapped students.
8. CONGRESS - Members of the United States Congressional Committees are listed with addresses, phone numbers, and party affiliation. Information regarding congressional activities are offered on this bulletin board and the Federal board.
9. OPINIONS - This bulletin board functions as SPECIALNET's "letters to the editor."
10. EXCHANGE - This bulletin board facilitates the sharing of information and ideas among SPECIALNET users.
11. VISION - This bulletin board contains messages of general interest related to services and programs for the visually impaired. It includes exemplary practices and sharing of materials and resources.

*October, 1984

12. DEAFNESS - Same as VISION except pertains to hearing impaired.
13. MULTIHANDICAPPED - Pertains to programs for multihandicapped. Posted by the Teaching Research Division of the University of Oregon.
14. EMPLOYMENT - Listing of employment opportunities in special education.
15. CSPD - Comprehensive System of Personnel Development- preservice and inservice training information posted by Counter-point special education newspaper staff in Alexandria, VA.
16. COMPUTER - Education Turnkey Systems, Inc. gives information on computer and other technology applications in special education.
17. CONFERENCE - Information regarding conferences of interest to special education.
18. ASSISTIVEDEVICE - Clearinghouse for information regarding assistive equipment for the severely handicapped.

SPECIALNET BULLETIN BOARDS

National Boards

ASSESSMENT
SLATE
COMPUTER
EDUTECH
TECHMARK
CONFERENCE
CONSULTANT
CSPD
CONGRESS
EXCHANGE
PRACTICES
TELEVISION
EMPLOYMENT
FEDERAL
RURAL
LITIGATION
POLICY
MULTIHANDICAPPED
DEAFNESS
EARLY CHILDHOOD
VISION
RFP
CEC.NEWS
ASSISTIVEDEVICE
GIFTED
CHAIN
VOCED

State Boards

ALASKA
CALIFORNIA
COLORADO
MONTANA
NEVADA
ILLINOIS
INDIANA
SCAROLINA
KANSAS
KSEX
KSCAL
FLORIDASUPER
MICHIGAN
SESA.NEWS
MISSOURI
MNSPEDRULES
GEN.ASSEMBLY
KSHE
PENNSYLVANIA
RESOURCESYSTEMNEWS

FLEX
MINNESOT
MOEX
TENNESSE
WVIRGINI
WYOMING
WASHINGT
MOLINC
FLORIDAE
MOSEDC
WESTLINK

COMPUSERVE

The following section on CompuServe has 5 parts:

- COMPUSERVE
- EMAIL
- VIDEOTEX
- ON-LINE RESOURCES
- EPIE

EQUIPMENT COMPATIBILITY AND REQUIREMENTS

The following list of computers, data terminals, communication hardware and communication software represent a few of the many different devices that will alow you to access the CompuServe information Service

Personal Computer/Data Terminal	Communication Hardware/ Software Necessary
APPLE II and II plus	Micromodem 11 or a modem with a communcation card and terminal software.
APPLE III	Modem and terminal software
ATARI 400 and 800	Interface modules, modem and Telelink I.
COMMODORE PET	IEEE interface module, modem and terminal software
EXIDY Sorcerer	Modem and terminal software
HEATH/Zenith computers	Serial prot. modem and software
IBM PC	Asynic. car. modem and VIDTEX software
I/O INDUSTRIES terminals	Nothing else required
OSBORNE I	Modem and terminal software
PANASONIC Hand Held Computer	Communications module and modem.
QUASAR Hand Held Computer	Communications module and modem.
RCA 3300 Seies Terminal	Modem.
RCA 3501 Terminal	Nothing else required
TEXAS INSTRUMENTS and 99/4A	RS-232 interface, modem and terminal emulator I or II
TRS-80 Model I/III	RS-232 board, modem and VIDTEX software.
TRS-80 Model II	Modem and VIDTEX software
TRS-80 Color Computer	Modem and Videotex cartridge or terminal software.
TRS-80 DT-1	Modem.
TRS-80 Videotex	Nothing else required.
XEROX - Sam 820	Modem and communication software.
ZENITH 2TA-1 Terminal	Nothing else required.

Most CPM based computers along with a serial port, modem and terminal soft-ware are also compatible with the Compu-Serve Information Service. In general, any standard AS CII data terminal with a modem can be made compataible. Even word processors with asy-chronous communicaitons and a mdoem can be used to comunicate with CompuServe.

Your personal computer or terminal should be set up to meet the following technical requirements:

1100, 200 or 1200 baud
full or half duplex
1 stop bit for 300 and 1200 baud, or 2 stop bits for 100 baud
standard
ASCII code
7 data bits with an even parity bit, or
8 data bits with no parity bit

The following lsit represntss some of the manufacturers of commercial terminals that cna be compatible with the Compu Serve Information Service. (There are many more.) Check with your computer equipment hardware vendor for the models and equipment needs.

Anderson Jacobson
Ann Arbor
Digital Equipment Corp. (DEC)
General Electric (GE)
Hazeltine
Lear Siegler
Teleray
TeleType
Tele Video

COMPUSERVE INFORMATION SERVICE *

Compuserve is an online resource that allows the user to gather updated information, communicate with business associates, and participate in computer game competition.

Using the service is not complicated. No special knowledge of computers or programming language is necessary. Most brands of personal computers or terminals, and many communicating word processors will connect you to CompuServe. (see p.)

Service is available "for just pennies per minute" according to the manufacturers.

For consumer information contact CompuServe at 2180 Wilson Road, Columbus, Ohio 43228, or by phone 800-848-8199.

WELCOME TO SOMEDAY

The CompuServe Information Service where you can keep abreast of the world around you with:

- News, weather and sports from major newspapers and international news services.
- Current and historical financial information, corporate profiles, money market and commodities information, financial reference databases and electronic banking.
- Entertainment - theater, book, movie and restaurant reviews, interactive electronic games, advice columns and trivia tests.
- Electronic mail service where you can create, edit, send and receive messages from any other CompuServe user - nationwide, (EMAIL).
- Home Information - a variety of specialized publications plus facts on nutrition, gardening, home decorating, automobile maintenance, family health and education.
- Personal Computing Services including software exchange, line printer art gallery, programming languages, word processing, business and educatinal programs and much, much more.
- TODAY magazine which is automatically mailed (free of charge) to all customers, providing an overview of the Videotex industry in general and specifically CompuServe's place in the industry.

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*The following information is excerpted from the CompuServe Manual, "Welcome to Someday" by permission of CompuServe.

- Update, the monthly CompuServe Information Service newsletter providing the most up-to-date information about the service, including new features, new menu items, new access phone numbers, inc.

The CompuServe Information Service (also referred to as CIS) is structured as follows:

VIDEOTEX several related menus from which you select
items of interest.

PROGRAMMING AREA area where you store files and run your
own programs.

GENERAL INFORMATION

STANDARD SERVICE hours are weeknights from 6 p.m. to 5 a.m. local time at point of network connection, all day Saturday, Sunday and announced holidays. Service after midnight Eastern Time occasionally may be restricted for system maintenance.

PRIME SERVICE hours are weekdays from 5 a.m. to 6 p.m. local time at point of network connection. Prime Service is available at a higher connect hour rate. The supplemental networks may also generate a higher surcharge during this time period. Should any part of a session occur within the Prime Service hours, the entire session will be billed at Prime Service rates. Prime Service does not include access to the Programming Area.

TELEPHONE HOOKUP To access the CompuServe Information Service, you must connect your personal computer or terminal to a telephone. There are many ways to do this depending upon the equipment you own. For more information on the needs of your particular system, see the manual for your personal computer or contact your personal computer dealer.

GETTING HELP The Feedback service provides an opportunity for you to report any problems you might be having, to ask questions and to order documentation. You may also call Customer Service for those problems needing immediate attention. Note: your connect time is free while in Feedback. Feedback is found by selecting User Information on the main menu and then by selecting Feedback on the subsequent menu.

RATES The current cost of using the CompuServe Information Service can be displayed by selecting User Information from the main menu and then selecting Current Rates on the subsequent menu. Note that some special items like MicroQuote, Energy Management System, etc., have an additional charge associated with them.

REVIEWING YOUR CHARGES You can display your current charges by selecting User Information on the main menu and then selecting Reviewing Your Charges on the subsequent menu.

SPECIAL AUTHORIZATION Access to certain information may require special authorization and validation. A message to this effect is displayed where appropriate.

PREMIUM PROGRAMS are those which have an additional charge for data retrieval. These programs are noted on the menus by a $ before the selection number.

DOCUMENTATION is available for CompuServe Information Service customers. Once you have subscribed and received your second password in the mail, you can order documentation by selecting User Information on the main menu and then selecting Feedback. Note: your connect time is free while in Feedback.

LOGGING ON and OFF the SYSTEM

After your computer terminal is connected to a modem, or an acoustic coupler (and, if you are using a microcomputer, you are running a terminal emulator program), you are ready to access the CompuServe Information Services by dialing the CompuServe Information Service network access number for your area. If a local CompuServe number is not available, you can access CIS through one of the CIS supplemental networks.

Generally speaking when you hear a continuous, high-pitched tone, properly position the telephone handset in the acoustic coupler or depress the data button on your modem. Once the proper connection is made, enter a Control C.

If you are connecting into a supplemental network, refer to CIS Supplement I —— Supplemental Network Access, for further instructions.

HELPFUL FEATURES

Error correction. Errors in a line can be corrected by backspacing to the error and retyping to the end of the line.

To recover your job, use the following procedure. Note that the USER ID and password must match those in effect at the time the job was disconnected.

1. Enter a ^C.
2. Enter your USER ID followed by/RECOVER (for example, 70000,1/RECOVER).
3. Enter your password.
4. The computer displays

```
RECOVERING...
```

EMAIL

Introduction

EMAIL is the CompuServe Information Service electronic mail program. With EMAIL you can compose messages and send them to any validated user of the Information Service. Also, after reading your messages, you can delete them or store them in your Programming Area disk space.

There is a system limit on the number of characters that any one EMAIL message can contain. There also is a system limit on the number of messages your incoming mailbox can hold.

There is no limit to the number of messages you can send to other users (of course, though, you couldn't send to any one user more messages than his/her mailbox can hold).

When a message from another user is sent to you, a file named EMAIL.DAT is created in your Programming Area disk space. This file contains all of your incoming EMAIL messages, and remains in your disk space until you read those messages

When you use your Programming Area, be sure that you do not access EMAIL.DAT or attempt to create another file with the name EMAIL.DAT as you might damage or destroy your incoming messages.

If another user sent you an EMAIL message, you will receive the following notice when you log on:

```
You have EMAIL waiting.
```

This message means that there is a file in your Programming Area disk space with the name EMAIL.DAT.

This message is followed by the Videotex main menu (unless you have set up a different initial page with the Default program; see USER INFORMATION in the Videotex Area for details).

VIDEOTEX

With Videotex you can locate a specific item of interest and have it displayed on your equipment. Menus of the available items appear to assist you in locating a specific item. You may need to step through more than one menu to arrive at the exact information for which you are searching. Some menu selections will run a program, allow you to display the information and when you are finished return you to the last menu which appeared.

The Videotex area is made up of thousands of pages of information. Each page has a maximum of 16 lines and is 32 characters wide. At the end of each page, an instruction appears followed by an exclamation point (!).

Main Menu

The main menu of the Videotex area includes the following items:

- User Information
- Personal Computing Services
- Home Services
- Business and Financial Services
- Services for Professionals
- Index

A brief explanation of each area is given on the following pages along with the IP codes associated with each in parentheses.

User Information (CIS)

The User Information main menu item contains information which is of interest to all customers. Some of the User Information items are:

What's New - (NEW) the new enhanced features available from the CompuServe Information Service.

Command Summary and Usage Tips - a brief description of the commands which can be used in the Videotex area.

Feedback to Customer Service - how to use the Feedback service and then allows you to order documentation or to send comments, or questions to the Customer Service staff, etc. Your Feedback is read and responded to via EMAIL to the same User ID which entered the message. Feedback responses are usually made within 48 hours after receipt by Customer Service.

The Feedback area provides the opportunity for you to make suggestions to CompuServe, report any problems you might be having and order documentation. Your connect time is free while using this service, in the form of a credit given for the time you use Feedback. It is recommended that you use Feedback to communicate with the CompuServe Information Service.

Changing Terminal Defaults - shows you how to specify terminal type, length of line, width of line, point of entry at logon, EMAIL waiting notice at logon, etc. You can make the default settings permanent or temporary to that session.

Changing Your Password - prompts you for your current password and then asks for your new choice of password. You are immediately notified when the password is changed successfully.

Reviewing Your Charges - information about your current and past charges for services used and purchases.

Changing Credit Card Info - change the existing information about your current credit card, or to enter another credit card choice.

Network Access Telephone Numbers - searches and displays the most up-to-date list of telephone access numbers by the state or area code you select.

Current Rates - displays the current rates for using the CompuServe Information Service.

CompuServe Viewpoint - (CVP) responds to the more common customer questions and briefly presents the CompuServe Information Service's plans.

Personal Computing Services (PCS)

The Personal Computing Services main menu item contains selections such as:

News - access to the most current on-line changes, offerings and helpful hints.

Reference - access to many programs such as programming languages, text editors, word processors, utilities, etc.

Communications - access to CB Simulation, the National Bulletin Board for public messages, electronic mail (EMAIL) for sending user to user messages, and other communications features.

Shop at Home - access to the software exchange. It also gives instructions for ordering art gallery, documentation, and other items which can be purchased from your home through Feedback.

Groups and Clubs - access to the special interest groups (SIGS). Programming and Computing provides access to the Programming area for Standard Service subscribers.

Home Services (HOM)

The Home Services main menu item provides access to items such as:

Newspapers - any of several major newspapers.

Weather - weather forecast for most major cities across the country.

Reference Library - articles from many major publications, movie reviews, information on refunding, U.S.Government publications, travel guide, etc.

Shop/Bank at Home - access to electronic banking as well as other shop at home items.

Groups and Clubs - access to various special interest groups.

Games and Entertainment - consists of a variety of games to challenge and entertain you.

Education - multiple choice tests to stimulate your mind.

Home Management - programs which balance your checkbook, calculate your next raise, amortize a loan, etc.

Business and Financial (FIN)

The Business and Financial - access to items such as:

News Reports - up-to-the-minute information about the business and finance offerings on CIS.

Reference Databases - financial databases available on CIS such as MicroQuote, Quick Code, Standard and Poor's data, and Value Line Database II. Note that most of these are premium programs which have a surcharge associated with them.

Index — (IND)

The Index selection displays the entire Subject Index or searches and displays features by key word entry. It also lists the IP code/page reference for each item so you can use the G (Go) command to directly access the item of your choice.

Programming Area (PRO)

The Programming area, accessed from the Personal Computing Services main menu of the CompuServe Information Service, provides a variety of computer services, including:

- creating your own program or text file
- software exchange (R SOFTEX)
- programming languages
- word processing
- business and educational programs
- special interest groups (R SIGS)

You can move back and forth easily between the Videotex area and the Programming area.

Glossary of Terms

Within the Glossary of the CCUG are definitions of some of the more frequently used terms associated with the CompuServe Information Service.

CompuServe Education

CompuServe accesses eleven forums/data bases under academics:

ACADEMICS

1. ADCIS Forum
2. EPIE Forum
3. NSBA Forum
4. NSPRA Forum
5. Education Research Forum
6. College Press Service
7. Clarke School for the Deaf
8. Handicapped Users Database
9. ERIC Database
10. IRIS Database
11. EPIE Database

We will review some of them:

The Association for the Development of Computer-Based Instructional Systems (ADCIS)

ADCIS is an international, not-for-profit association dedicated to:

1) ADVANCING the investigation and utilization of Computer-Based Education and Training,

2) PROMOTING and FACILITATING the interchange of information, programs, and materials in the best professional and scientific tradition,

3) REDUCING redundant effort among developers, and

4) SPECIFYING requirements and priorities for hardware and software development and encouraging and facilitating their realization.

ADCIS-Net is for use by ADCIS members to facilitate communications. Others interested in Computer-Based Education and Training are also welcome.

ADCIS-Net is designed for use by member of the Association for the Development of Computer-based Instructional Systems. Those who are not members of ADCIS may enter ADCIS-Net for the purpose of reviewing databases related to ADCIS and Computer Based Instruction. ADCIS-Net is sponsored by the Association for the Development of Computer-based Instructional Systems for the sole use of it's membership.

EPIE Forum
The Educational Product Information Exchange Institute Forum

Membership Information

EPIE Forum is dedicated to the exchange of information and ideas concerning educational courseware, products and services. Teachers, parents and community educators are encouraged to participate in discussions and debates.

There is no membership fee charged. Anyone can participate and use the first five sections on EPIE Forum. The Forum provides two way communication that allows members to suggest software for review and to share their experience with the software they are using.

Reference Library XA Data bases contain information on software, EPIE projects and articles that highlight the changes microcomputers are bringing to education in the home and school.

EPIE Forum provides EPIE members with a place to communicate and exchange information with each other and with EPIE staff. It also provides educators who are not members and parents with information on EPIE services.

There are two basic areas in the forum. The first and most obvious is a message area comprised of 11 sections. The second is the XA reference library that members can store and retrieve reports, program listings and directories in.

There are five sections that have been established for general use. Sections 6 to 10 have been reserved for use by EPIE members with special projects.

Section 0 is for GENERAL COMMENTS, INTRODUCTIONS AND QUESTIONS about how to use the Forum. All questions concerning use of the Forum to Section 0 are directed to this section.

The XA0 reference library will contain help files, articles of general interest, and a list of current events.

Section 1 is for COMMENTS ON SOFTWARE AND SOFTWARE REVIEWS. Users can give feedback concerning EPPIE reviews they agree or disagree with, they can review software they are using or would never use. This area could also be a place to discuss development issues.

The XAI reference library will contain reviews written by Forum members, articles on software development and a list of reputable review citations.

Section 2 is for comments on micro-computer hardware. Louis Robers, EPIE Director of Technology is available to answer questions regarding educational microcomputer hardware.

The XA2 reference library is for information on the development and use of microcomputer hardware for education.

Section 3 is a resource area on EQUITY IN ELECTRONIC EDUCATION.

The XA3 reference library will contain descriptions of projects that are occurring throughout the United States. 4E project participants are encouraged to use this section to communicate with each other and EPIE staff. For information on the 4E project read the file EPIE4E.DOC XA3.

Section 4 is an area for people interested in the role microcomputers can play in home learning programs that are initiated by teachers and school districts.

Section 5 is for young people to review and discuss software, hardware and peripherals. Peggy O'Brian and her students from the U.N. International School have entered a set of reviews on word processing. If you are under 18 years old you are invited to submit reviews of your favorite educational software. If you are a teacher with students that would like to participate, leave a message for Richard Wenn 70007,566. Folks over 17 are welcome to converse.

The XA5 library is for software reviews written by young people and articles that concern the involvement of young people in the development of software.

Sections 6 thru 10 are reserved for EPIE members to use for special projects.

The Educational Product Information Exchange Institute Forum (EPIE)

1. EPIE Services and Activities
2. Educational Software Selector
3. EPIE Forum
4. Micro-PRO/FILES
5. News and Events
6. Give Feedback About EPIE ON-LINE

1. What is EPIE?
2. Why Does EPIE Exist?
3. EPIE Services
4. EPIE Outreach Program
5. Why Consumers Use EPIE
6. How EPIE Evaluations Help
7. How States Use EPIE Services

For more information, write:
EPIE Institute
P.O. Box 839
Water Mill, New York 11976

WHAT IS EPIE?

EPIE Institute, the Educational Products Information Exchange (EPIE), is education's only not-for-profit, consumer-supported product evaluation agency. Since its founding in 1967, EPIE has earned the respect of educators by producing the objective evaluations of all types of teaching materials and equipment. With the advent of microcomputers in the classroom, EPIE expanded its evaluation services to include instructional software and has joined with Consumers Union to provide evaluations of microcomputers and their peripheral hardware.

EPIE exists because educational consumers deserve objective, trustworthy evaluations of the products competing for limited school budgets. EPIE's sole purpose is to supply consumers with independently-researched purchasing information that is trustworthy and that will save them time and money. Consistent with its role as "watch-dog" for educational consumers, EPIE accepts no support from education companies, and no product advertising is permitted in EPIE's publications. In addition, companies whose products have been evaluated by EPIE are prohibited from quoting from or referring to EPIE's evaluations in any of their own product advertising and marketing efforts.

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EPIE SERVICES

1. Microcomputing Products
2. Textbook Products
3. Audio-Visual/Video Products
4. Basic Services for Schools

MICRO PRO/FILES

EPIE provides in-depth, timely evaluations of microcomputer courseware and hardware through its Micro-Courseware and Hardware PRO/FILE Evaluation Service. Each Micro PRO/FILE contains an in-depth analysis of the strengths, weaknesses, and over-all value of each product. PRO/FILEs of computer hardware contain the results of product tests conducted exclusively for EPIE by the testing engineers at Consumers Union of the U.S. (Microcomputer Product Selection Workshops are available.)

THE EDUCATIONAL SOFTWARE SELECTOR (TESS)

TESS is the definitive source of information on the availability of all types of educational software (over 5,000 entries) covering instructional courseware, management, administrative, school library, and student guidance software.

TESS also contains citations to reviews of many entries as well as contacts in schools that have purchased specific software. TESS is published jointly by EPIE and Teachers College Press, Columbia University.

MICROGRAM

Each month, EPIE publishes a consumer newsletter on educational computing products which contains news and critical analyses of issues related to such products.

TEXTBOOK PRO/FILES

EPIE supplies educators with regularly updated evaluations of K-12 textbooks and related materials through its widely-used Textbook PRO/FILE evaluations. Textbook PRO/FILE contains a comprehensive, in-depth four-to six-page analysis.

EPIGRAM: MATERIALS

EPIE publishes this monthly newsletter covering textbooks and issues concerning their publication and use.

EPIE REPORT: MATERIALS

EPIE publishes two "State of the Art Reports" that cover major trends in instructional materials and equipment products. EPIE Report: Materials reports on all types of instructional materials.

SELECTION WORKSHOPS

Textbook selection workshops also are available.

A-V/V PRO/FILES

EPIE supplies evaluations of audio-visual and video equipment and systems through its A-V/V PRO/Files.

EPIEGRAM: EQUIPMENT

This newsletter deals with consumer information and issues related to all types of audio-visual and video equipment.

EPIE REPORTS: EQUIPMENT

EPIE's second "State of the Art Report" covers major trends in equipment such as audio-visual and microcomputing products.

ERIC

(Available through CompuServe)

Introduction

The ERIC Clearinghouse on Handicapped and Gifted Children or the Council for Exceptional Children's Department of Information Services can help you find the following kinds of information:

- Suggested activities and instructional materials to teach elementary school students about handicaps
- A list of programs in your area of the country that train teachers of the emotionally disturbed
- Research on the factors that contribute to successful placement of handicapped children in regular classes
- A list of books written for parents of hyperactive children

CEC and ERIC help people find useful information related to the education of handicapped and gifted children.

THE RELATIONSHIP BETWEEN CEC AND ERIC

The Council for Exceptional Children is a professional association with a membership of over 62,000 persons interested in the education of handicapped or gifted children. CEC's Department of Information Services maintains its own data base called Exceptional Child Education Resources (ECER), which is a collection of over 45,000 references on special education.

ERIC (Educational Resources Information Center) is a federally funded system that collects literature on all aspects of education including special education. The collection includes over 200,000 journal articles and almost 200,000 other education related documents. Sixteen clearinghouses around the country collect, abstract, and index this literature for ERIC. CEC holds a federal contract to operate one of these clearinghouses—The ERIC Clearinghouse on Handicapped and Gifted Children.

When you write or call either CEC's Department of Information Services or the ERIC Clearinghouse on Handicapped and Gifted Children, you're really contacting the same place. The information you receive will usually include some products and services sponsored by CEC, and some which come from ERIC funding.

The information center located on the first floor of CEC Headquarters at 1920 Association Drive, Reston, Virginia, will be referred to as CEC/ERIC. You may call (800) 366-3728 for information.

INFORMATION YOU WILL RECEIVE FROM CEC/ERIC

There are several types of publications.

- Information Analysis Products - books, monographs, or media kits

  Sample titles: Managing Inappropriate Behaviors in the Classroom

- Fact Sheets - one-page summaries of current, high-interest topics. Most include lists of resources for further information.

  Sample titles: "Careers in Special Education"
  "Postsecondary Options for Learning Disabled Students"

- Computer Search Reprints - extensive bibliographies with abstracts summarizing each reference.

  Sample titles: "Computer Assisted Instruction for Handicapped Children and Youth"

  "Attitudes Toward the Handicapped Research"

- Information Bulletin - The Clearinghouse "newsletter" which informs you of current CEC/ERIC resources.

Frequently your information needs can be met with one or more of these CEC/ERIC products.

There's a good chance that you have free or low-cost access to ERIC and ECER through a local university library or information center.

INFORMATION AVAILABLE FROM THE ERIC AND ECER DATA BASES

Both ERIC and ECER contain thousands of references on children and youth with special educational needs: gifted children, children with specific learning disabilities, and children who have emotional, cognitive, motor visual, auditory , or communication handicaps. While ECER contains only literature on exceptional children, ERIC covers all aspects of education.

You can use ERIC and ECER to locate:

- Journal articles
- Curriculum guides
- Program descriptions
- Descriptions of teaching methods and activities
- Conference papers
- Research studies

USING THESE RESOURCES TO MEET YOUR NEEDS

Information in the ERIC and ECER data bases is available in two formats:

- Print abstract journals.
- Computerized data bases.

HAND SEARCHING THE PRINT INDEXES

Materials collected by ERIC appear in two indexes:

- Current Index to Journals in Education (CIJE) - includes references from over 700 education-related journals.
- Resources in Education (RIE) - includes references of program descriptions, research reports, and all other ERIC documents except journal articles.

All materials collected by ECER are referenced in one journal:

- Exceptional Child Education Resources (ECER)

If you want to save yourself a lot of time going through the indexes, you may want to order a computer search of ERIC and ECER.

COMPUTER SEARCHING ERIC AND ECER

A computer search is especially desirable if you have a topic that involves several concepts. Suppose you were specifically interested in inservice training in adapted physical education? A computer search enables you to specify the exact nature of your topic, thus saving you a great deal of time scanning abstracts that are not useful to you.

Let's consider another example of a topic that lends itself to computer searching. Suppose you were interested in research on the success of mildly handicapped students in regular classes. You may want to consider studies of their academic achievement, social and emotional adjustment, and acceptance by nonhandicapped classmates. A search of this topic would involve the following three concepts:

- * Mildly Handicapped Students
- * Mainstreaming
- * Indicators of "Success"

Using the Thesaurus of ERIC Descriptors you would find that documents and articles on your topic could be indexed under the following descriptors:

- * Mild Disabilities
- * Learning Disabilities
- * Mild Mental Retardation
- * Emotional Disturbances
- * Mainstreaming
- * Academic Achievement
- * Achievement Gains
- * Peer Acceptance
- * Emotional Adjustment
- * Student Adjustment
- * Social Adjustment

To find out where you can have a computer search run, call CEC/ERIC. If you have no cheaper search service available to you, The Council for Exceptional Children's Department of Information Services will run one for as little as $27.50. (CEC member price.) Nonmember and institutional searches start at $38.50.

Do You Need Information Right Now?

If you think there may be information available from CEC or ERIC that could serve an immediate need, call us at CEC/ERIC and ask fork an Information Specialist. (Call toll free at 800/336-3728 within the continental U.S. from Virginia, Alaska, Hawaii, or Canada call collect, 703/620-3660).

RESOURCE SERVICE CENTER USER EVALUATION AND COMMENTS

To evaluate the availability and applicability of existing microcomputer hardware and software, in 1984 the MicroAdmin Project sent surveys to special educators in California and requested their input. The following pages summarize the input for specific softwares. The first page of the two-page summary is self-explanatory. On page 2, numbers under "yes", "no" or "N/A" indicate the number of responses of this type. For example for PFS File and Report, 3 people responded "yes" to the first four descriptors, while only 2 responded "yes" to the fifth descriptor. Prices may vary according to market fluctuations, etc. This does not constitute a representative sample of the existing population of users of such software, however it is intended to provide the reader with some feedback by actual, field based users.

The SERN-RSC values input from field users on software. We would appreciate it if you would complete the following user evaluation form for any software(s) you are currently using, and return the form to:

Britt Vasquez, Coordinator
MicroAdmin Project
SERN-RSC
650 University Avenue, #201
Sacramento, CA 95825

RETURN TO: Britt Vasquez
SERN-RSC
650 University Ave., #201
Sacramento, CA 95825

SOFTWARE EVALUATION FORM

Evaluator Name ______________________________

Name of Program ______________________________

Experience with program ________ years.

Documentation

	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use			
2. Documentation is well organized			
3. Documentation is written in clear, straightforward language			
4. Documentation comes with a good complete index .			
5. Other help is provided, e.g. toll free number .			

Operation

	YES	NO	N/A
1. The program runs at an acceptable speed			
2. On-screen prompting (i.e. a help menu) is available			
3. Input fields are well designed and self-prompting			
4. The program recovers from malfunctions without losing data or text previously entered			

Output

	YES	NO	N/A
1. The program provides for both screen and printer output			
2. The program provides for output to a disk file .			
3. There is adequate flexibility in designing output			
4. The output is formatted in an easy to read manner using appropriate abbreviations, spacing, and print			

Overall

	YES	NO	N/A
1. The program is easy to install			
2. Backup copies of the program can be made or are provided			
3. The program does the task it purports to do . .			
4. The program does the task for protection against casual access to confidential data			
5. The program is integrated with other application programs			
6. The program is flexible in meeting my needs . .			

Describe any special strengths

Describe any special weaknesses

Other comments/concerns/questions

Overall evaluation
Check one

_____ Excellent program. Recommended without hesitation.

_____ Pretty good program. Consider purchase.

_____ Fair. Might want to wait for something better.

_____ Not useful. Do not recommend purchase.

Table of Contents

PFS File and Report

Wordstar

Magic Window

Apple Works

AceWriter

AceCalc

WISC-R Analysis

DB Master

Serve

Multiplan

SuperCalc

Visicalc

Woodcock Johnson

PFS File & Report

SYSTEN:
Apple II, IIe, III
IBM pc, IBM PC XT
48K

PERIPHERALS NEEDED
2 disk drives
printer

PUBLISHER:
Software Publishing Co.
2021 Landings Dr.
Mountain View, CA 94043
(415) 962-8910

PRICE: $125-file,
$95-Report

PROGRAM TYPE:
File Manager

STRENGTHS:

Excellent documentation.
Easy to teach to computer novices
Very flexible--the user designs file format.
Very easy to design.

WEAKNESSES:

Report allows only 1 line/file--restricts output.
The AppleII version has some print command problems;
the apple IIe version is trouble free.

OTHER COMMENTS:

If PFS comes out with a Calc program, we would use only PFS programs.
Highly recommend PFS Write.
Ease of use is a great advantage, disadvantages are minimal.

OTHER REVIEWS:

Popular Computing, July 1982.

Comments based upon 3 persons responding.

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	3		
2. Documentation is well organized	3		
3. Documentation is written in clear, straight forward language	3		
4. Documentation comes with a good complete index	3		
5. Other help is provided, eg. toll free number	2		

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	2		
2. Documentation is well organized	3		
3. Input fields are well designed and self-prompting	3		
4. The program recovers from malfunctions without losing data or text previously entered	1	1	

Output	YES	NO	N/A
1. The program provides for both screen and printer output	3		
2. The program provides for output to a disk file	3		
3. There is adequate flexibility in designing output	2		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	3		

Overall	YES	NO	N/A
1. The program is easy to install	3		
2. Backup copies of the program can be made or are provided	3		
3. The program does the task it purports to do	3		
4. The program provides for protection against casual access to confidential data		3	
5. The program is integrated with other application programs	3		
6. The program is flexible in meeting my needs	3		

Overall evaluation

_3_ Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

WORDSTAR

SYSTEM
IBM PC
CP/M CP/M-86
56-64K

PERIPHERAL NEEDED:
Disk Drive
Printer

PUBLISHER
MicroPro International
33 San Pablo Ave.
San Rafael, CA 94903
(415) 489-1200

PRICE $495

PROGRAM TYPE:
Word processor

STRENGTHS:

With the right printer, the program will produce a fine product.
You see on the screen the output you'll get on the printer.

WEAKNESSES:

Documentation is difficult to read.
Index is not easy to use.

OTHER COMMENTS:

A powerful program—takes time to learn.
MicroPro did not assist with a problem, but referred back to dealer.

OTHER REVIEWS:

Electronic learning, March 1984.

Comments based upon 2 persons responding.

WORDSTAR

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	1	1	
2. Documentation is well organized	1	1	
3. Documentation is written in clear, straight forward language	1	1	
4. Documentation comes with a good complete index	2		
5. Other help is provided, eg. toll free number		1	

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	2		
2. Documentation is well organized	2		
3. Input fields are well designed and self-prompting	2		
4. The program recovers from malfunctions without losing data or text previously entered		1	

Output	YES	NO	N/A
1. The program provides for both screen and printer output	2		
2. The program provides for output to a disk file	2		
3. There is adequate flexibility in designing output	2		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	2		

Overall	YES	NO	N/A
1. The program is easy to install	2		
2. Backup copies of the program can be made or are provided	2		
3. The program does the task it purports to do	2		
4. The program provides for protection against casual access to confidential data		2	
5. The program is integrated with other application programs	1		
6. The program is flexible in meeting my needs	2		

Overall evaluation

1 Excellent program. Recommended without hesitation.

1 Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

Magic Window

SYSTEM
Apple II, IIe, II+
48-64K

PERIPHERAL NEEDED
Disk drive
printer

PUBLISHER:
Artsci, Inc.
5547 Satsuma Ave
North Hollywood, CA 91601
(818) 985-2922

PRICE: $150

PROGRAM TYPE:
Word processor

STRENGTHS:

Easily learned, you can start using it quickly. Few gimmicks and special functions to master.

WEAKNESSES:

Limited in the amount of functions it can do.

OTHER COMMENTS:

Does take more time to master than a typewriter. Would like to see interchangeable command for scrolling, capitalizing etc. for various programs on various hardware.

OTHER REVIEWS:

Comments based upon 1 person responding.

Magic Window

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number		1	

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	1		
2. Documentation is well organized		1	
3. Input fields are well designed and self-prompting . .			1
4. The program recovers from malfunctions without losing data or text previously entered . . .	1		

Output	YES	NO	N/A
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output . .		1	
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print. .	1		

Overall	YES	NO	N/A
1. The program is easy to install			
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data	1		
5. The program is integrated with other application programs	1		
6. The program is flexible in meeting my needs	1		

Overall evaluation

___ Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

_1_ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

Apple Works

SYSTEM:
Apple IIe, IIc
128K

PUBLISHER:
Apple Computers Inc.
20525 Mariani Ave.
Cupertino, CA 95011
(408) 996-1010

PERIPHERAL NEEDED:
2 disk drives
printer

PRICE: $250

PROGRAM TYPE:
Integrated program

STRENGTHS

Very easy to use.

WEAKNESSES:

Calc program is a little small.

OTHER COMMENTS:

Seems well suited to educational needs.

OTHER REVIEWS:

Comments based upon 1 person responding.

Appleworks

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number	1		

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered	1		

Output	YES	NO	N/A
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output	1		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		

Overall	YES	NO	N/A
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data	1		
5. The program is integrated with other application programs	1		
6. The program is flexible in meeting my needs	1		

Overall evaluation

1 Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

AceWriter

SYSTEM:
Franklin
Apple II, II+
64K

PERIPHERAL NEEDED:
2 disk drives
Printer

PUBLISHER
Artsci, Inc.
5547 Satsuma Ave
North Hollywood, CA 91601
(818) 985-2922

PRICE: $85

PROGRAM TYPE:
Word processor

STRENGTHS:

Very easy to use—even a 4 year old can print with it.

WEAKNESSES:

Some of the edit commands are limited.

OTHER COMMENTS:

Have used it to format report forms for case work-ups.

OTHER REVIEWS:

Comments based upon 1 person responding.

AceWriter

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number		1	
Operation			
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered	1		
Output			
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output	1		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		
Overall			
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data	1		
5. The program is integrated with other application programs		1	
6. The program is flexible in meeting my needs	1		

Overall evaluation

___ Excellent program. Recommended without hesitation.

_1_ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

AceCalc

SYSTEM:
Franklin
Apple II, II+
64K

PERIPHERAL NEEDED:
2 disk drives
printer

PUBLISHER:
Artsci, Inc.
5547 Satsuma Ave.
North Hollywood, Ca 91601
(818) 985-2922

PRICE: $85

PROGRAM TYPE:
Spreadsheet

STRENGTHS:

Can be used to computerize the Special Ed. Budget including staff salaries, category funding,and J-50 form.
Good beginning spreadsheet program.

WEAKNESSES:

Runs out of memory.

OTHER COMMENTS:

Very easy to use. We will probably go to Visical Advance Version to make use of newer functions and expanded memory.

OTHER REVIEWS:

Comments based upon 1 person responding.

AceCalc

	YES	NO	N/A
Documentation			
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number	1		
Operation			
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered		1	
Output			
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output	1		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		
Overall			
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data	1		
5. The program is integrated with other application programs		1	
6. The program is flexible in meeting my needs	1		

Overall evaluation

___ Excellent program. Recommended without hesitation.

_1_ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

WISC-R ANALYSIS

SYSTEM:
Apple II, IIe
TRS-80 II, III
IBM PC
48K, BASIC

PERIPHERAL NEEDED:
Disk drive
Printer

PUBLISHER:
Southern Micro systems
P.O. Box 1981
Burlington, NC 27215
(919) 226-7610

PRICE: $495

PROGRAM TYPE:
Test analysis

STRENGTHS:

WEAKNESSES:

OTHER COMMENTS:

OTHER REVIEWS:

Comments based upon 1 person responding.

WISC-R ANALYSIS

	YES	NO	N/A
Documentation			
1. Documentation provides necessary assistance to make the program easy to use			1
2. Documentation is well organized			1
3. Documentation is written in clear, straight forward language			1
4. Documentation comes with a good complete index			1
5. Other help is provided, eg. toll free number	1		
Operation			
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting			1
4. The program recovers from malfunctions without losing data or text previously entered		1	
Output			
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file		1	
3. There is adequate flexibility in designing output		1	
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		
Overall			
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data	1		
5. The program is integrated with other application programs		1	
6. The program is flexible in meeting my needs	1		

Overall evaluation

___ Excellent program. Recommended without hesitation.

_1_ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

DB Master

SYSTEM:
Apple II, IIe,
DOS 3.3

PERIPHERAL NEEDED:
disk drive
Printer

PUBLISHER:
Stoneware, Inc.
50 Belvedere Rd.
San Rafael, Ca 94901
(415) 454-6500

PRICE: $229

PROGRAM TYPE:
File manager

STRENGTHS:

WEAKNESSES:

OTHER COMMENTS:

OTHER REVIEWS:

Comments based upon 1 person responding.

DB Master

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number	1		

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered			

Output	YES	NO	N/A
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output	1		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		

Overall	YES	NO	N/A
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data		1	
5. The program is integrated with other application programs	1		
6. The program is flexible in meeting my needs			

Overall evaluation

___ Excellent program. Recommended without hesitation.

_1_ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

SERVE

SYSTEM:
CP/M Altos
Apple IIe
MS-DOS,
64K

PERIPHERAL NEEDED:
2 disk drives
printer

PUBLISHER:
Ed. Research Consultants
4436 Engle Rd.
Sacramento, CA 95821
(916) 483-6417

PRICE: $2900

PROGRAM TYPE:
MIS

STRENGTHS:

Flexible, can be customized.

WEAKNESSES:

Lack of manual for operator.

OTHER COMMENTS:

OTHER REVIEWS:

Comments based upon 1 person responding.

SERVE

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use			1
2. Documentation is well organized			1
3. Documentation is written in clear, straight forward language			1
4. Documentation comes with a good complete index			1
5. Other help is provided, eg. toll free number	1		
Operation			
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting			
4. The program recovers from malfunctions without losing data or text previously entered			
Output			
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output			1
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		
Overall			
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data	1		
5. The program is integrated with other application programs	1		
6. The program is flexible in meeting my needs	1		

Overall evaluation

1 Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

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MULTIPLAN

SYSTEM: Apple II, IIe, III IBM PC, 64K CP/M	PERIPHERAL NEEDED: 2 disk drives printer
PUBLISHER: Microsoft 10700 Northup Way Bellevue, WA 98004 (206) 828-8080	PRICE: $275 PROGRAM TYPE: Spreadsheet

STRENGTHS:

Report formats can be integrated with Wordstar.
Can be programmed to specific needs.

WEAKNESSES:

With multi-user system defaults to printer 0.
Earlier version allowed for printer selection.

OTHER COMMENTS:

OTHER REVIEWS:

Popular Computing, June 1983.

Comments based upon 1 person responding.

MULTIPLAN

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	2		
2. Documentation is well organized	2		
3. Documentation is written in clear, straight forward language	2		
4. Documentation comes with a good complete index	1	1	
5. Other help is provided, eg. toll free number	1	1	

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	2		
2. Documentation is well organized	2		
3. Input fields are well designed and self-prompting	2		
4. The program recovers from malfunctions without losing data or text previously entered	1		1

Output	YES	NO	N/A
1. The program provides for both screen and printer output	2		
2. The program provides for output to a disk file	2		
3. There is adequate flexibility in designing output	2		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	2		

Overall	YES	NO	N/A
1. The program is easy to install	1		1
2. Backup copies of the program can be made or are provided	2		
3. The program does the task it purports to do	2		
4. The program provides for protection against casual access to confidential data	1	1	
5. The program is integrated with other application programs	1	1	
6. The program is flexible in meeting my needs	2		

Overall evaluation

2 Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

SUPERCALC

SYSTEM: CP/M, CP/M-86, IBM PC, IBM PC XT 64K	**PERIPHERAL NEEDED:** Disk drive printer
PUBLISHER: Sorcim 2310 Lundy Ave San Jose, CA 95131 (408) 942-1727	**PRICE:** $395 **PROGRAM TYPE:** Spreadsheet

STRENGTHS:

WEAKNESSES:

OTHER COMMENTS:

OTHER REVIEWS:

Popular Computing, June 1983.

Comments based upon 1 person responding.

SUPERCALC

	YES	NO	N/A
Documentation			
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number			1
Operation			
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered			1
Output			
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output	1		
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		
Overall			
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data		1	
5. The program is integrated with other application programs		1	
6. The program is flexible in meeting my needs	1		

Overall evaluation

1 Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

VISICALC

SYSTEM:
Apple II, IIe, III
IBM PC
TRS-80
48K

PERIPHERAL NEEDED:
Disk drive
printer

PUBLISHER:
Visicorp
2895 Zanker Rd.
San Jose, CA 95134
(408) 946-9000

PRICE: $250

PROGRAM TYPE:
spreadsheet

STRENGTHS:

Valuable in budget planning, but other, more flexible programs are available.

WEAKNESSES:

Needs adjustable column widths, capital lock

OTHER COMMENTS:

OTHER REVIEWS:

Popular Computing, September and October 1982;
Popular computing, June 1983

Comments based upon 1 person responding.

VISICALC

	YES	NO	N/A
Documentation			
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number		1	
Operation			
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered		1	
Output			
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file	1		
3. There is adequate flexibility in designing output		1	
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.			1
Overall			
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided		1	
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data			1
5. The program is integrated with other application programs		1	
6. The program is flexible in meeting my needs		1	

Overall evaluation

___ Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

_1_ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

WOODCOCK JOHNSON

SYSTEM:
Apple II, IIe
48K
3.3 DOS

PERIPHERAL NEEDED:
2 disk drives
printer

PUBLISHER:
Sysdata International
7671 Old Central Ave. NE
Minneapolis, MN 55432
(612) 780-1750

PRICE: $485

PROGRAM TYPE:
Test analysis

STRENGTHS:

Ease of use.
Speed compared to hand scoring.

WEAKNESSES:

Doesn't do individual subtest scores.
Printing is standard.

OTHER COMMENTS:

OTHER REVIEWS:

Comments based upon 1 person responding.

WOODCOCK JOHNSON

Documentation	YES	NO	N/A
1. Documentation provides necessary assistance to make the program easy to use	1		
2. Documentation is well organized	1		
3. Documentation is written in clear, straight forward language	1		
4. Documentation comes with a good complete index	1		
5. Other help is provided, eg. toll free number	1		

Operation	YES	NO	N/A
1. The program runs at an acceptable speed	1		
2. Documentation is well organized	1		
3. Input fields are well designed and self-prompting	1		
4. The program recovers from malfunctions without losing data or text previously entered	1		

Output	YES	NO	N/A
1. The program provides for both screen and printer output	1		
2. The program provides for output to a disk file		1	
3. There is adequate flexibility in designing output		1	
4. The output is formatted in an easy to read manner, using appropriate abbreviations, spacing, and print.	1		

Overall	YES	NO	N/A
1. The program is easy to install	1		
2. Backup copies of the program can be made or are provided	1		
3. The program does the task it purports to do	1		
4. The program provides for protection against casual access to confidential data		1	
5. The program is integrated with other application programs		1	
6. The program is flexible in meeting my needs	1		

Overall evaluation

_1_ Excellent program. Recommended without hesitation.

___ Pretty good program. Consider purchase.

___ Fair. Might want to wait for something better.

___ Not useful. Do not recommend purchase.

A REPORT FROM THE

MICROADMIN PROJECT: THE ROLE OF IHEs

The Purpose

The primary focus of this component of the Project Leadership Training For Administrators of Special Education in Emerging Technology (commonly called the MicroAdmin Project) was to examine the role that institutions of higher education (IHE) portray when preparing administrators in the area of computer technology for the management of special education in California. The study provides preliminary data on the types of microcomputer courses being offered by IHEs. An investigation of the state of the art of computers in education certification programs offered by IHEs was also conducted as part of this investigation.

The first major project task was to describe the current use of microcomputers for special education program administration in California. A secondary task of the project was to identify the providers of training and the modes that were utilized in preparing aspiring and practicing administrators to use microcomputers to manage special education programs. An accurate account of the various preparation approaches provided by IHEs was complicated by the following factors:

1) There are currently 48 different institutions of higher education that offer administrative credential preparation programs in California.

2) It is difficult to identify the responsible unit for providing the course work at the various institutions. Some IHEs may offer the course(s) through the School of Education, while others may select extension field services to provide the training.

3) There is no special education administrative credential in California. The lack of this authorization makes it difficult to identify those preservice leadership candidates that may benefit from specific preparation in the use of microcomputers in managing special education programs.

METHODOLOGY

There are 69 different universities or colleges in California. Among these institutions, 48 are authorized by the California Commission of Teacher Credentialing to offer preparation programs for the administrative services credential. Table 1 provides the number of approved programs in the three IHE systems in California.

Table 1

System	Number of Campuses	Approved Programs
California State University	19	18
University of California	9	5
Private Universities	41	25
		Total = 48

Survey Questionnaire

The research design of this project's institute of higher education study required the construction of a questionnaire instrument. The major aim of this survey study was to ascertain preliminary descriptive information pertaining to IHEs that are:

1) Providing training in the use of microcomputers in education;

2) Providing training in the use of microcomputers in educational administration;

3) Providing training in the use of microcomputers in special education administration;

4) In the process of developing courses in microcomputers in education;

5) Providing Computers in Education Certificate Programs;

6) In the process of developing a certificate program.

Sample Selection

The method of sample selection was based upon identifying those IHEs within the California State University and the University of California systems that have received approval by the Commission of Teacher Credentialing to offer administrative services credentials preparation programs.

The questionnaires were distributed to the 19 campuses of the California State University System and the 9 campuses of the University of California system. The 41 private universities and colleges were not included in this preliminary study.

Data Analysis

A descriptive analysis of the data was reported both by frequency of response and in percentages. The first area of analysis focused on microcomputers in education courses and computers in education certificate program offerings. The questionnaire did not ascertain the specific focus of the courses, for example, courses for teachers, administrators, etc. Respondents were requested to attach a course description to the questionnaire which could then be analyzed for greater detail. This information was tallied and reported according to the following educational categories:

1. Instructional - Classroom
2. Special Education
3. Administration
4. Special Education Administration

The last area of data analysis pertained to the development of a master list identifying the following information by IHEs (see Appendix A):

1. Their SERN Region
2. Their TECC Centers
3. Types of microcomputer courses being offered.

Results of the Survey Questionnaire

A total of 20 IHEs returned questionnaires with related course description materials. All of the respondents (100%) indicated that educational related microcomputer courses were currently being offered (Table 2).

Table 2

Study of IHEs
Microcomputers in Education
(N=20)

Item	Response		
	Yes	Planning Stage	No
1. Course (s) in Microcomputers in Education	100% (20)	——	—
2. Computers in Education Certificate Program	35% (7)	50% (10)	15% (3)

The results of the component of the study that pertained to the specific types of courses being offered indicated that the majority of the courses (N=20) has instructional - regular classroom focus. Six courses were specifically developed for administration of the regular education program. Three courses were offered for special education classroom teachers and only one course was specifically designated for special education administrative purposes (see Table 3).

Table 3

Microcomputers in Education
Courses Offered by IHE*

Type	Number
Instruction - Classroom	20
Administration	6
Special Education	3
Special Education Administration	1

*Some IHEs offered more than one type of course listed in Table 3.

DISCUSSION

This preliminary study of microcomputers in special education administration has revealed that there is a dearth of coursework opportunities currently being provided by institutions of higher education in California. The results of this project's IHE study should be interpreted with caution.

There are numerous problems associated with identifying the actual providers of the microcomputer courses. Some universities offer the course work through the School of Education. Other universities may utilize the extension of field services unit. It is not uncommon to find that a combination of these options were incorporated in providing the courses. These results should not be generalized to all IHEs.

Private universities were excluded from the population being investigated in this study.

An additional problem was identified in the construction of the questionnaire instrument. The survey elicited information regarding the offering or planning of coursework in microcomputer in education. The specific area of special education administration was not mentioned. Respondents may have construed that the purpose of the survey was to include just general education microcomputer courses without further examination of other program offerings.

RECOMMENDATIONS

After an examination of this data, the follow-up and field input, the following recommendations can be made:

1. Conduct an additional survey study during the Fall of the 1984 school year. Re-construct the design of the questionnaire instructment to elicit specific information regarding administrative courses in microcomputers. The study should focus on the entire universe of IHEs

in California including both private and public universities. This investigation should identify which units are responsible for offering the courses (Schools of Education, divisions within the schools, and extension/field services);

2. Institutions of higher education should offer specific training in the use of microcomputers in managing special education programs. Creative approaches should be implemented that will attract experienced administrators that may be unwilling to return to a traditional on-campus program.

3. Training should be provided as a cooperative effort with SERN and TECC centers. An off-campus approach seems appropriate for this effort. TECC centers already contain the necessary equipment and materials. The off-campus facilities may be perceived as a more convenient opportunity by administrators enrolled in the training. SERN consultants may be capable of providing the inservice training to geographical regions that are often considered to be restricted in terms of the traditional IHE on-campus format. This concern is especially relevant to the large rural areas of California.

CONCLUSION

It is appropriate to the effective management of special education programs that institutes of higher education provide appropriate preparation to both aspiring and practicing administrators in the uses of microcomputers. This effort becomes even more challenging in light of the continuous rapid advancements being made in the technological field.

Major questions of this emerging technological challenge are:

1. In what ways will institutes of higher education respond to this need in the management of special education programs?

2. How appropriate will be the microcomputer courses for the management of special education program, that the IHEs develop?

3. In what ways are IHEs willing to work cooperatively with other educational agencies in response to this need?

APPENDICES

ABSTRACT

Leadership Training for Administrators of Special Education in Emerging Technology

1. Objective and Need for this Assistance

Evolving technology and increasing budget pressures are encouraging special education administrators to turn toward computers as a way of streamlining program administration requirements. Unfortunately few special administrators are prepared to use the evolving technology. School district budgets rarely include adequate funds for training, and few courses, if any, are currently designed specifically for special education administrators and the use of computer technology. As a result, administrators are forced to seek out training from other sources, adapt procedures to special education on their own, and make costly investments of time and energy without knowing the availability of existing solutions. This project will build on existing legislative and State Education Agency (SDE) support by coordinating the resources of the Teacher Education Computer Centers (TECCs), institutions of higher education (IHEs), and the Special Education Resource Network (SERN) to address the identified need of special education administrators for in-service training and support in the use of microcomputers for special education program administration.

The principle objective of this project is to facilitate the application of emerging computer technology to special education program administration in California by providing special education program administrators with the needed awareness, knowledge, skills, and support to understand and use computer applications.

Subordinate objectives include: (1) to provide administrators of special education programs with a cost effective statewide process for identifying, collecting analyzing, and disseminating information on the application of computer resources for special education program management; (2) to provide an ongoing regional support system to special education administrators who are using computer applications for program management; (3) to facilitate the development of needed software applications for special education program management, and (4) to provide in-service training to administrators of special education programs for acquiring the awareness, knowledge, and skills to use emerging technology for program administration.

Result of Benefits Expected

The major product of the project will be the development of five in-service training modules for providing special education administrators with an awareness of, and knowledge and skills in, the application of computer technology for special education program administration. In-service training on the five modules will be provided to 200 special education administrators. Training will be provided for approximately 50 trainers from TECCS, IHEs, and SERN. The project will develop a Critical Consumers and Users Guide (CCUG)

to provide a process for disseminating statewide information on emerging technology and its potential application for special education program administration. Regional groups will be established to provide ongoing information and support to computer users. Unmet software needs will be identified, and commercial and private software producers will be actively solicited to develop needed software.

Approach

The project includes eight major tasks (1) Needs Assessment; (2) Data Collection on Computer Resource; (3) Critical Consumers and Users Guide (CCUG); (4) Five In-service Training Modules; (5) In-service Training and the Training of Trainers: (6) Regional User Support Groups; (7) Development of Needed Software; and (8) Evaluation. Project staff will coordinate all tasks. An advisory committee consisting of computer and special education experts, representatives from the SDE, IHE, TECC, and CASE will be formed in Year 1 to develop the needs assessment process, and will be maintained over the three years of the project to review all project-developed products and processes. Consultants with expertise in computers and special education will be hired to develop the five in-service training modules. The SERN network, TECCs, and IHEs will be used to provide onging dissemination of project-developed training materials. It is intended that several of the resources developed as part of this project will continue to be maintained beyond the life of the project including: the Regional User Support Group; the updating of the Critical Consumers and Users Guide; and the ongoing collection, analysis, and dissemination of information on emerging computer technology by the Resource Service Center of SERN.

The project evaluation design includes a process, product, and outcome evaluation model. The five training modules and the CCUG will be evaluated in terms of the increase in administrators' awareness, knowledge, and skills in applying computer technology to special education program administration. The in-service training will be evaluation in terms of the degree to which it meets identified objectives, and participants perceptions of the process. Data will be collected on the Regional User Support Groups and the development of needed software. Project outcomes will be evaluated in years 2 and 3 in terms of the increase in the number of special education administrators utilizing computer technology for special education program administration.

Appendix B

TO: Janet D. Jamieson, Project Coordinator
Resource Service Center - SERN
650 University Avenue, Room 201
Sacramento, CA 95825

FROM: Institution/Organization: (name) ______________________________
____
Address: ____
Contact Person: ____
(name) (phone)

1. Do you currently have courses for educators on microcomputer and education?

____ YES, we currently have course offerings in this area (please enclose information as to course title, description, cost, units, extension or regular program, when and where offered, etc.).

____ NO, we currently do not have courses, however, we are in the process of developing them and they will become available __________.
(date)

____ NO, we do not have courses and do not anticipate developing any.

2. Do you currently have a Computers in Education Certificate Program, or similar program?

____ YES, we currently have a Certificate Program in this area for educators (please enclose information on your program).

____ NO, we currently do not have a Certificate Program in this area but are in the process of developing one which will become available __________.
(date)

____ NO, we currently do not have a Certificate Program and do not anticipate developing one at this time.

3. Do you have any objections in having the Resource Service Center-SERN disseminate information about your course offerings and/or Certificate Program?

____ NO, please spread the work!

____ YES, we would rather disseminate the information ourselves.

COMMENTS:

PLEASE SEND COPIES OF MATERIALS, ETC.

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GLOSSARY OF TERMS*

Listed below is some of the fundamental terminology used in the field of microcomputers.

access time
The period of time between calling for information from memory and the delivery of that information. A disk storage is generally faster than tape storage.

address
The designation of where information is stored with in a memory device.

alphanumeric
The computer symbols, letters (A-Z) and /or numerals (0-9) and/or special punctuation, mathematical or graphic symbols.

architecture
The internal, preset organization of a computer that determines how the computer operates.

ASCII
American Standard Code for Information Interchange. A binary number code for letter, numbers, symbols, etc., accepted as a standard by the industry.

Assembler
The program that converts English into machine language (binary format).

BASIC
Acronym for beginners All-Purpose Symbolic Instruction Code. Uses common English words and mathematical symbols to perform arithmetic and logical operations in the computer to solve problems.

BAUD
Rate with which one device transfers information in a single second. 1500 Baud is equivalent to about 150 characters per second. It is stated as bits per second (bps).

Binary Code
A code that uses zeros and ones for data. 10110011 may represent the letter C.

bit
Binary Digit. The smallest unit of digital information, represented in one of the following ways: a yes/no choice, a closed or an open circuit, or as a zero or one.

---

* Contents drawn from many sources, including CompuServe "Welcome To Someday".

BPS
Bits per second.

BRANCH
An instruction which, when met in a program, makes a move to another part of the program, deviating form the normal sequencing of the program. Branch statements are one of two types: conditional (statement command IF...THEN) or unconditional statement command (GO TO).

bug
Error - a programming error or equipment malfunction.

bus
A set of wires that allows data to be sent generally with microcomputers bidirectionally.

byte
A group of binary bits. Eight bits is equal to one byte. One byte is generally equal to one letter, number, or graphic symbol.

cassette recorder
A device through which information is stored. Information is put onto the cassette as audio signals. Cassette information is stored sequentially and therefore a relatively slow format for storage of information.

chip
The heart of a microcomputer, on which thousands of electronic elements are implanted. This piece of silicon, a microcompressor, contains all the circuitry to carry out the many computer operations. It is created through a photographic etching process.

CIS
Is the CompuServe Information Service.

code
The relationship between bits and a set of characters, alphabet letters, numbers or graphic symbols. Each character has its own bit code (zero or one binary representation). The most commonly used code is ASCII.

coding
The process of developing a set of computer instructions.

command
An instruction given to the computer form an input device.

compatibility
There are two types of compatibility: software and hardware. Software compatibility refers to the ability to run programs on a variety of computers. Hardware compatibility means that various components (printers, disks, keyboards, etc.) may be connected directly.

Compiler
A program that translates machine language into basic (everyday) English and vice versa.

courseware
The combination of educational software and accompanying written materials that provides an instructional tool or course material.

CPU
The Central processing Unit controls what the computer does. There are three main sections of the CPU: control and timing, registers, and the arithmetic logic unit (ALU). The CPU can be considered the core of the computer.

CRT
Cathode Ray Tube similar to a television screen. The CRT terminal usually is accompanied by a keyboard from which information is entered into the computer.

cursor
A blinking indicator on the CRT that shows the user where the next character is to be typed and where it will appear.

data
The information given to or received from a computer.

database
Is a collection of information which is stored on the computer.

debug
Process of finding, locating, and correcting erros in a program.

defaults
Settings telling your terminal specific ways to respond. For example, how many lines on a screen you want to have displayed while scrolling, the first page to see after logon, the number of characters to delay after issuing a command, etc. These default settings can be made permanent or can be in effect for the current session only.

diagnostic routine/program
A program that will check out the hardware and peripherals for incorrect information and breakdown.

digit
A zero or one in the binary system.

Direct Memory Access (DMA)
A technique to move data rapidly from the microprocessor to a storage device (e.g. disk).

disk (disc)
Magnetic coated material in a 5" or 8" record-like shape on which information and programs are stored. The information is stored randomly on disk and therefore faster than cassette storage. Sometimes called diskettes or floppy disks.

disk storage
Refers to the storing or saving of data in the programming area on a device called disk. The data than can be retrieved for use. Each Standard and Prime Service customer is allocated 128,000 characters of disk space at no extra charge. Additional storage can be requested through Feedback for an extra charge.

display
Is the program which accesses the Videotex area from the programming area.

document
A written description of a piece of software or hardware. Gives the directions to operate a program or piece of equipment.

DOS
Disk Operating system. A set of programs and instructions that permit interaction between the diskettes and the microcomputer.

dotmatrix
A method to generate graphic characters by using dot patterns. A 5 x 7 dot matrix is a common example.

download
Is the process of transferring a file of data from your online disk storage to your own personal computer system.

driver
A program that controls the peripheral devices and how they interact with the CPU.

dumb terminal
A terminal that acts as an input/output device only.

dump
Loading what is in memory or part of it into the CPU or into memory.

editor
A program that allows a person to change or modify a program.

EMAIL
Is the CIS Electronic Mail program.

enter
Is the specific key on the keyboard which enters the current line into the computer; acts like a carriage return on a typewriter.

error
The difference between a program's response to a problem and the desired response.

execute
The running of a computer program.

Executive
Is a terminal emulator program specifically designed for use with the CompuServe Information Service. Several versions of the Executive are available, each with its own set of capabilities, for use with different equipment.

external storage
Peripheral device for storage (i.e. tape or disk.)

FEEDBK
Is the program which enables you to provide your comments, ask questions or get help with a problem form Customer Service. You may also order documentation a and CIS products which in the Feedback program. (CompuServe)

file
Collection of related data.

filename
Number or letter characters that identify a file or collection of data.

Filge
Is CompuServe's File Generator and Editor which is used for creating and modifying files, for use in EMAIL, the Bulletin Board, and the Programming area files.

flowcharting
A programming technique using shaped blocks to indicate the direction and sequence of operations in a program.

FORTRAN
A science-oriented program language.

frequency
A rate at which anything occurs and reoccurs, measured in cycles or hertz per second.

full duplex
Reception and transmission of information at the same time.

GIGO
Garbage in, garbage out. If incorrect information is put into the computer, the output will be misinformation.

graphics
Characters used to create figures, shapes, and forms on the CRT or printer.

hardcopy
Data or information printed on paper, distinguished from printed information or a temporary image on the computer's screen.

hardware
The physical equipment that goes into a computer system, consisting of the central processing unit plus all peripherals.

head
On a cassette recorder the head is the area that reads information from a pre-made cassette tape.

host
Is the CompuServe computer to which you are connected.

IC
Integrated Circuit. A plastic or ceramic body with numerous leads extending form it. The silicon body protects the chip. The leads permit electrical connection of the chip to other components. The word "chip" may also be called in microprocessor.

initial page
Is the first page of information which is displayed after logon.

input
Information going to and from a computer or peripheral. The same data may be output as well as input depending upon the part of the computer to which it is going or from which it is coming.

instruction
A group of bits, a command, that will make the computer perform a specific operation.

interactive
All personal computer systems are interactive, allowing for two-way communication while they are being used.

interface
Electronic circuit that connects the CPU and a peripheral device, disk drive, etc., permitting the flow of data back and forth.

internal storage
Memory system inside of the computer, distinguished from disk storage or tape storage.

interpreter
A program used to translate various computer languages.

I/O
Input and output of data and information of a computer system; examples are: keyboard, floppy disk drive, printer, cassette recorder, modems, graphics tablets.

microcomputer
A computer in which the Central Processing Unit (CPU) is a single-chip microprocessor.

microprocessor
An integrated circuit that executes instructions inside the microcomputer.

modem
A device that allows computer information to be transferred over phone lines. It changes the tones to signals understood by the computer.

modulator
A device called an RF modulator can permit a standard television to act as a video display unit.

monitor
A video display unit which uses a cathode ray tube to generate characters with high lines of resolution, permitting very small characters to be projected on the screen.

motherboard
The central board or boards inside the microcomputer interconnecting the various chips which allows interfacing between memory and peripheral devices.

network
Is the communications link equipment that enables you to connect to CompuServe's computers in Columbus, Ohio. CompuServe operates its own network in most major cities in the 48 contiguous United States. Access from other cities in the U.S. and Canada is available through a supplemental network (such as TYMNET or DataPac) at an additional communications surcharge.

node
Is a specialized communications computer which allows many terminals to communicate through the same line to CompuServe's large computer complex in Columbus, Ohio.

noise
Inaccurate data transmission.

nonvolatile memory
Memory that holds data even after the power has been shut off. ROM is nonvolatile.

OK
Is the prompt which is used in the Programming area to indicate readiness to accept a command. (CompuServe)

output
Information coming from the microcomputer to a display unit, i.e., video display unit, printer.

page
Is any one of the 16-line displays which appear on your terminal.

password
A unique set of characters that secures entry into the service for a unique USER ID. (CompuServe)

peripheral device
Devices, such as a printer, disk drive, etc., which serve as additional components to the microcomputer.

personal computer
A microcomputer designed for instructional uses, entertainment, or personal recordkeeping.

plotter
A device that draws on paper two-dimensional shapes and designs.

port
The connection spot on the microcomputer where input and output devices can be connected. The most common port is an RS232 plug.

premium program
A special item, such as Microquote, Value Line Database II, Energy, etc. These premium programs have an additional charge for the data retrieved. these programs are noted on the menus by a $ before the selection number. Upon selection of a Premium Program, you are notified of the charges and asked if you wish to proceed to retrieve data. (CompuServe)

printer
A peripheral device that collects output data from the microcomputer and prints it on paper. Printers are defined as impact or non-impact. Impact printers strike the paper by a ribbon, like a typewriter. Non-impact printers form characters by electrical charges or spraying ink.

program
A series of instructions which causes the computer to do or complete an operation.

prompt
Is the message which is displayed to alert you that the computer is waiting for input. For example, Key M for menu! In the Videotex area, or OK in the Programming area. (CompuServe)

RAM
Random Access Memory. Any memory which can be written on or read in which the memory locations can be accessed in random sequence. RAM can be erased and reprogrammed by the programmer as frequently as necessary. RAM size is expressed as a quantity of bytes such as 4K (4,000 bytes). RAM may be expanded by adding memory chips or memory boards.

read
The act of retrieving from memory or from an input/output device.

register
A temporary storage device located in the microprocessor which holds computer bits.

response time
The time interval required for the microprocessor to respond to an instruction or input device

ROM
Read Only Memory. A circuit where data or instructions are programmed at the time of manufacture. It allows the microcomputer to talk to us in BASIC. Cannot be erased during normal operations.

screen
Refers to one page of information.

SIGS
The program which accesses the Special Interest Groups area. The SIGS offering contains many groups with mutual special interests which have been given a unique area to allow members to communicate with each other. (CompuServe)

smart terminal
A terminal that has the ability to process data and function as a computer in addition to being an input/output device for a main frame computer.

SOFTEX
Is the name for the Software Exchange program which allows a user who is equipped with the proper version of the Executive to purchase programs online that can be run on his/her personal computer. These programs can be downloaded to the personal computer system upon purchase. (CompuServe)

software
Programs and documentations to be run on the physical equipment (hardware). The three current formats of software storage are tape (cassette), diskette, and solid state. The microcomputer loads the software into its memory to utilize the software programs.

storage capacity
The number of bytes a storage unit can hold. A diskette said to have 48K (48,000 bytes) has approximately 48,000 characters, letters, numbers, spaces, or symbols.

storage device
A peripheral device that stores information, i.e., tape or disk.

store
Placing information on a storage device.

tape
The most common microcomputer tape is magnetic, such as cassette tape. Magnetic tape is stored in electrical charge patterns that are equivalent to what we know as letters, numbers, symbols, etc.

terminal
A peripheral device which allows human communication with a computer. When it is called a terminal, it is frequently tied to a main frame computer.

track
Where electrical charges or characters are stored on diskettes. Some diskettes have up to 70 or more tracks on one diskette.

upload
Is the process of transferring a file from your personal computer system to your CompuServe disk storage area. (CompuServe)

USER ID
Is a unique number assigned to your account that, when used with the correct password, allows access to the CompuServe Information Service. For example, 77777,777.

Video Display Unit (VDU)
A part of a microcomputer similar to that of a television where information is placed on its screen.

Videotex
Is an easy to sue interactive menu formatted system for accessing remote databases or programs. On CompuServe, the Videotex format is the pages of text.

VIDTEX
Is a terminal emulator program which is specifically designed for use with the CompuServe Information Service and which is in CompuServe Information Service Videotex format. VIDTEX software is sold through computer dealers and through the CIS on-line product ordering area found in Feedback.

Volatile Memory
The memory that is lost when the electricity is turn off. RAM memory is volatile.

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